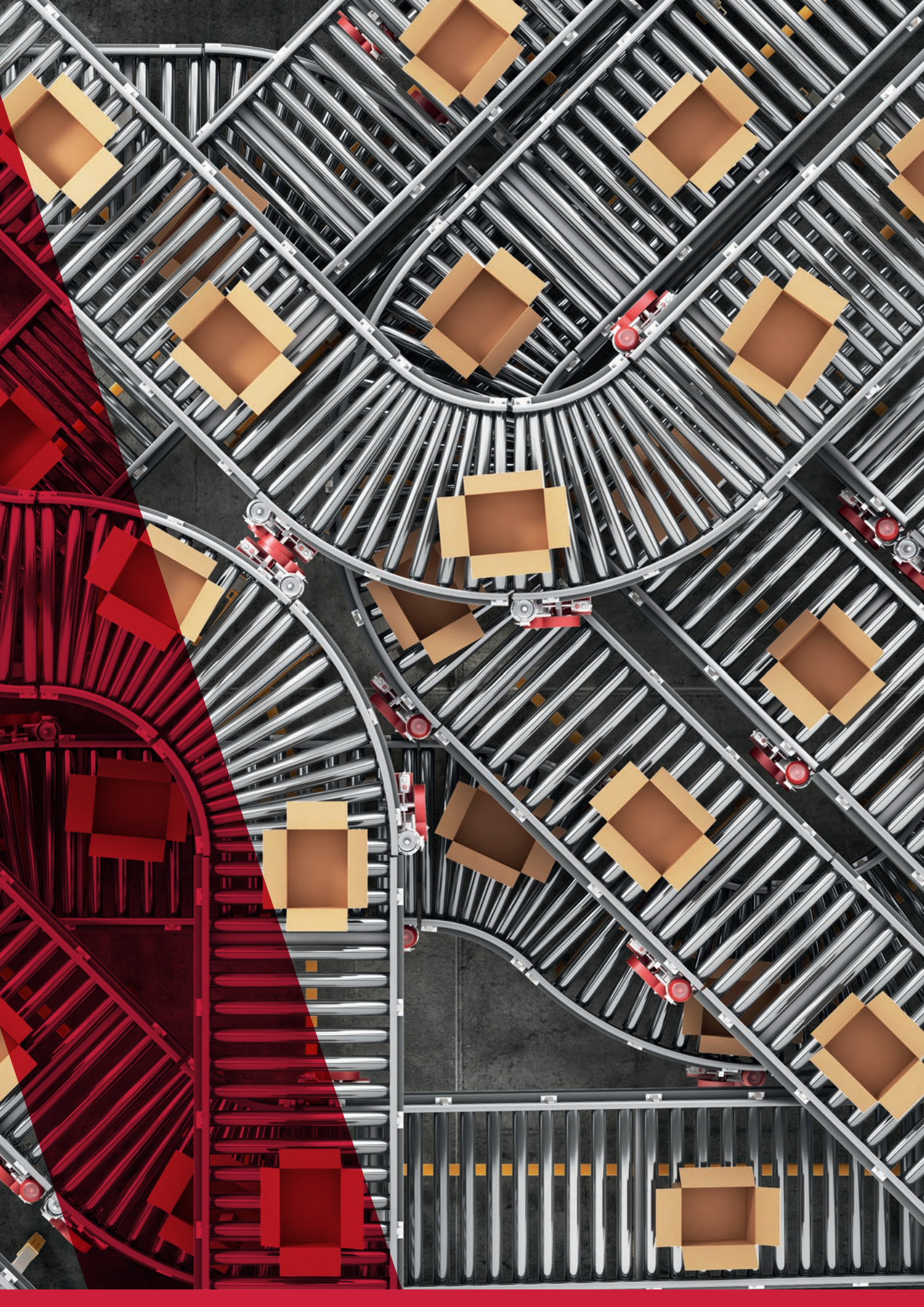

SUPPLY CHAIN RESILIENCE: THE NEW COMPETITIVE ADVANTAGE





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Introduction

The disruption caused by the coronavirus pandemic, along with the effects of Brexit and events such as the blockage in the Suez Canal, have all served to highlight just how vulnerable many supply chains really are.

While supply chain vulnerabilities are nothing new, these shocks have served to exacerbate existing supply chain trends and challenges – and, as a result, spurred business leaders to speed up their response to reduce the risk of supply chain disruption. Ignoring such risks can be costly – the Suez Canal blockage held back approximately **9.6 billion dollars**’ worth of goods per day, according to Lloyd’s List.

Now, as businesses plan for economic recovery, there is an opportunity to harness learnings from the events that have taken place in order to build a more resilient operating structure that is less susceptible to disruption in the future.

Prior to the pandemic, it was the norm for businesses to source products and materials globally, based on their quality, cost and availability. Today, however, businesses are far more likely to want to know exactly how much risk they are taking on when sourcing supplies globally, and the impact that a loss of supply could have on operating revenues.

While global sourcing is likely to remain the supply chain model of choice for many businesses, others may find that shorter, localised supply chains make more sense. Business leaders will need to consider the best option for their organisations and configure their supply chains to suit.

The scale of the disruption caused by recent supply chain shocks has underlined the strategic importance of effective supply chain management, and highlighted that it needs to be positioned as a prominent boardroom issue. Businesses that understand this can seize the opportunity to make changes that will position them for growth and give them a competitive advantage.

This white paper outlines the importance of effectively assessing, building agility into and future proofing the supply chain – and a process for how businesses can look to embed these elements. By taking these steps now, ahead of their competitors, businesses can ensure they are well prepared to benefit from the recovery.



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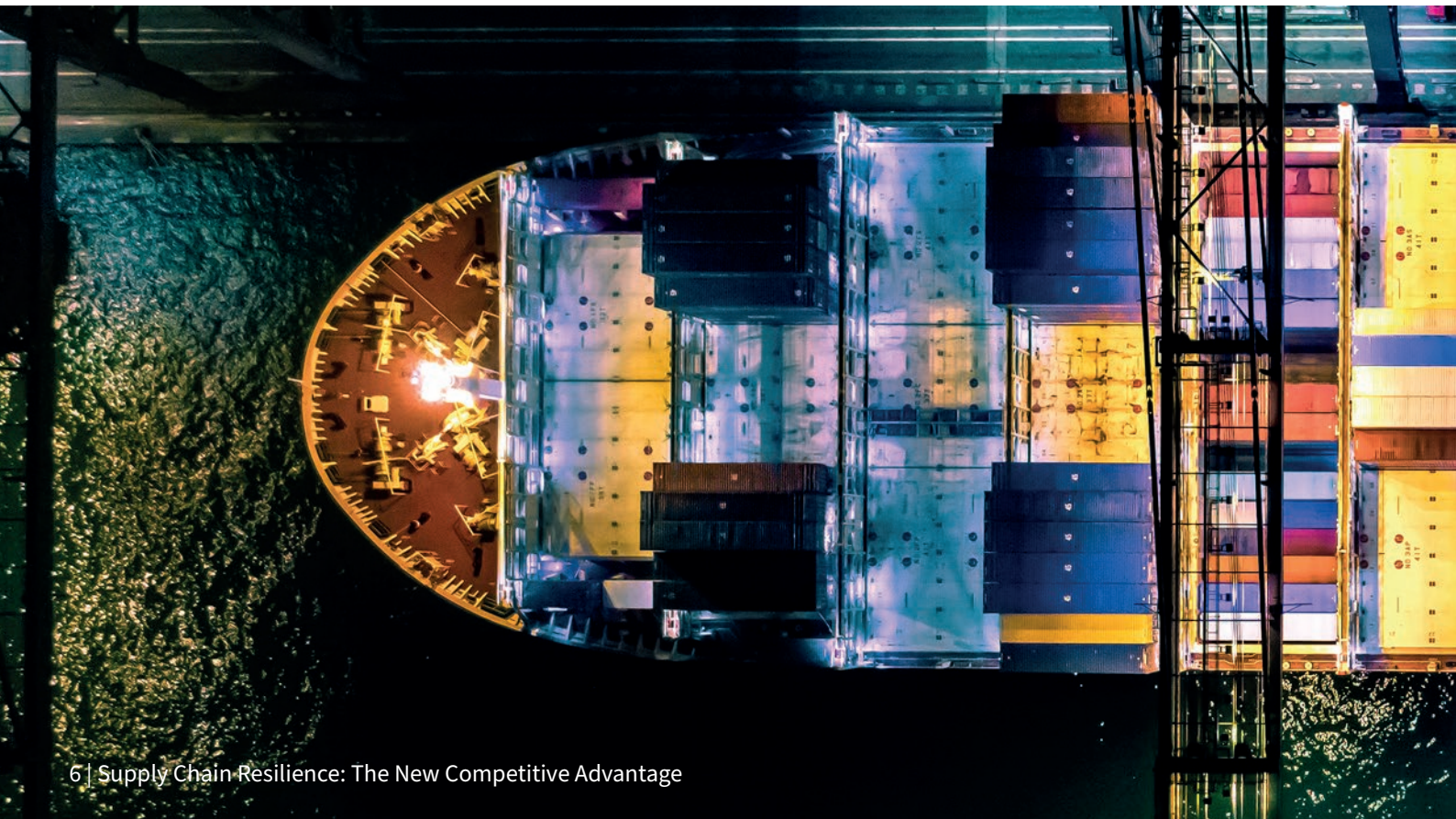


Accelerating existing supply chain trends

It is widely acknowledged that Covid-19 in particular has accelerated a number of supply chain and market trends that were underway well before 2020.

Concern about the impact of geopolitical risks, such as rising tensions in the US-China trade war, and a growing corporate focus on Environmental and Social Governance (ESG) performance, had already led many businesses to re-examine their sourcing practices and environmental impacts. In addition, changing patterns of consumer demand and purchasing behaviour had been on the corporate agenda long before the pandemic. However, the shocks of the last year have acted as a catalyst for these challenges, in terms of significantly magnifying and accelerating their impact – and with a resulting imperative for businesses to place these issues front and centre.

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In the first quarter of 2020, few businesses could have predicted the full extent of the supply chain disruption heading their way. By April last year, however, it was becoming clear that the crisis was having a powerful impact on many industries, causing significant fluctuations in supply and demand. While some businesses were forced to implement temporary shutdowns due to supply shortages, others were scaling up rapidly to meet unprecedented levels of demand. By the end of 2020, it was clear that the rapid uptick in global demand was happening more quickly than expected in some sectors and some supply chains were being stretched to the limit.

For example, a sharp increase in demand for consumer tech products, such as tablets and gaming hardware, combined with increased take-up of battery electric vehicles, has led to a global shortage of semiconductors. Now with an estimated value of \$433bn (and the global semiconductor market is forecast to grow by 8.4% in 2021), producers in Asia have responded by increasing capacity through the introduction of around-the-clock shift patterns. However, demand levels are still not being met and some automotive manufacturers have opted to slow down production or impose temporary shutdowns.

Conversely, for some of the hardest-hit industries, such as aerospace manufacturing, reduced demand during the pandemic actually eased supply chain pressures somewhat. This enabled businesses to tackle the order backlog that had built up over a number of years. In other cases, companies that had invested heavily in capital equipment prior to the pandemic were left struggling to protect cashflow and maintain operations.

As businesses across industry sectors grapple with these accelerating supply chain challenges, it is clear that strong leadership is needed. Awareness of supply chain risks has intensified and strategic board-level consideration of their potential impact on business operations and performance now, more than ever, needs to be a vital element of corporate governance best practice.



Is your **Board focused** **on** supply chain risks?

In the past, board-level decision makers have tended to overlook the importance of de-risking and optimising supply chains, preferring to leave this area of operations firmly in the hands of their procurement and supply chain teams.

This approach is changing rapidly, however, as businesses learn more about the impact that a lack of effective supply chain management can have on business performance. Oft-cited research conducted with manufacturing firms indicates that there is a strong link between supply chain capabilities and business performance (Supply Chain Management Vol 10, Issue 3: **'The impact of supply chain management capabilities on business performance'**). Specifically, it highlights the importance of cultivating supply chain management capabilities in areas such as inbound and outbound transportation, warehousing and inventory control, production support, packaging, purchasing, order processing and information dissemination. The research suggests that by taking this approach firms will be able to identify and take advantage of opportunities in a global marketplace.

The recent ground shift in awareness of the disruption that can be caused by unforeseen supply and demand shocks has also pushed supply chain considerations higher up the strategic corporate agenda. It is important for business leaders to recognise that structural changes are needed to minimise the risks that these disruptions can cause.

Forward-thinking business leaders also recognise that with forecasts of economic growth and global trade being set to rebound this year, there is an opportunity to review supply chain practices and invest in game-changing technologies. By taking this action now and positioning the business for growth, they can secure a competitive advantage.





Economists at the World Health Organisation (WHO) initially predicted that world merchandise trade would drop by between **13 and 32% in 2020**, due to the Covid-19 pandemic. However, the organisation has since **confirmed** that it **fell by just 5.3% in 2020**, and is **predicted to rise by 8% in 2021, and 4% in 2022.**

“ Forward-thinking business leaders recognise that with economic growth and global trade forecast to rebound, there is an opportunity to review supply chain practices and invest in game-changing technologies.

Five reasons why improving supply chain resilience is a boardroom issue:

01 Enhancing enterprise value:

Investors are increasingly focusing on the robustness of a company's business model to determine enterprise value – and a resilient supply chain is critical to achieving this. ESG performance is another key element that can have a direct impact on a company's valuation, and demonstrating a commitment to this across all areas of operations, from product development to supply sourcing, is becoming ever more important.

02 Investing in value creation:

At a time of unpredictable demand, businesses that invest in game-changing technology and data-based systems, can improve their agility and enhance their growth potential. Focusing spend in areas that will improve supply chain and cost transparency will enable value creation.

03 Strengthening customer service:

Improving supply chain resilience is an opportunity to reconfigure supply chains to meet, or even exceed, customer demands. By ensuring the customer is at the centre of any changes that are made, businesses can boost revenues and generate value.

04 Protecting business continuity:

Maintaining business continuity is vital to protecting revenues and improving supply chain resilience is critical to minimising the risk of costly, unforeseen downtime.

05 Long-term planning:

Almost every business has a long-term strategic plan, but recent supply chain shocks have forced many Boards to focus on the near-term. By future proofing supply chains now, businesses will be better positioned to grow sustainably over the long-term.



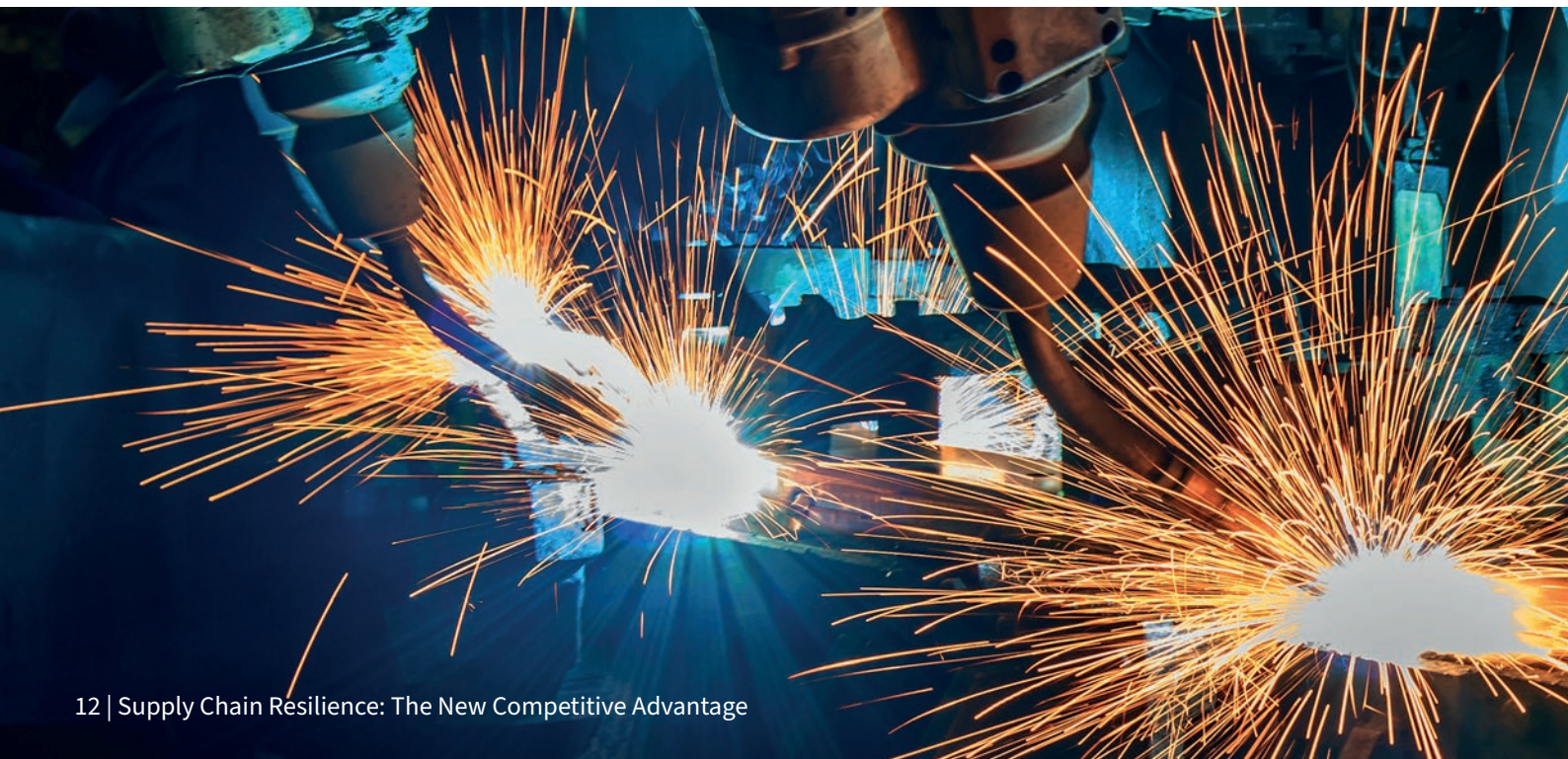


Key **strategic elements** **underpinning** supply chain resilience

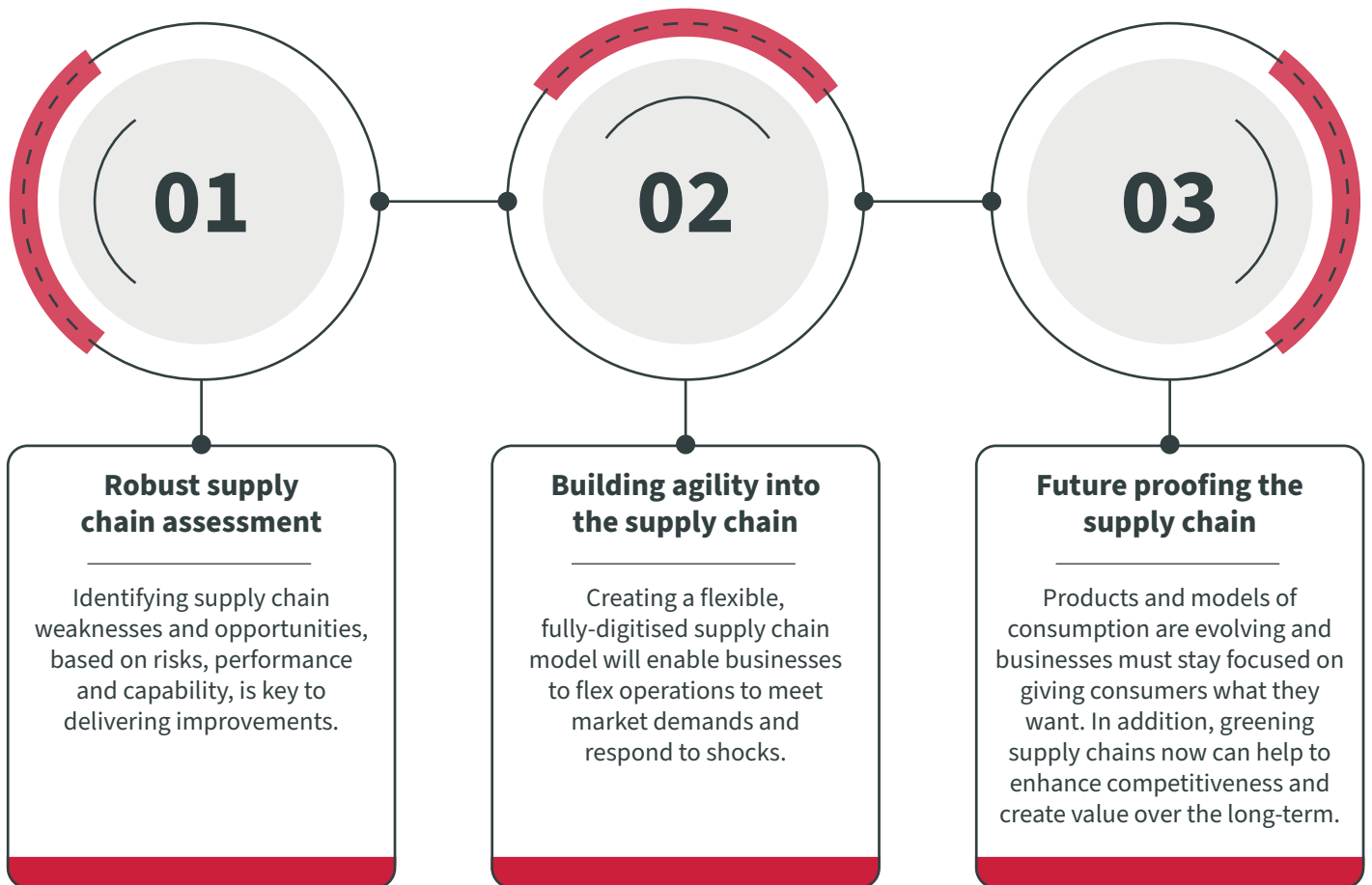
“ Improving supply chain resilience can be challenging, particularly in industries where there is a high level of complexity.

The macro-level shocks of Covid-19 and Brexit, combined with significant market disruption due to new technology, new entrants and new consumer behaviours, have highlighted the need for robust, well-managed supply chains. But improving supply chain resilience can be challenging, particularly in industries where there is a high level of complexity.

Here we outline three key strategic areas that businesses should focus on as a priority in order to achieve resilience across their supply chain, and ultimately drive competitive advantage.



Key strategic elements underpinning supply chain resilience



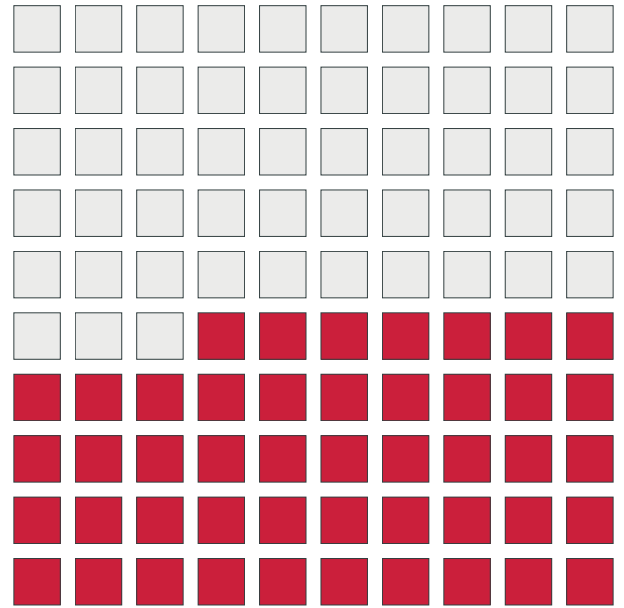
1. Robust supply chain assessment

Assessing supply chain resilience on a continual basis allows businesses to gain a deeper understanding of their supply base, as well as their distribution and logistics operations. This enables them to identify areas of weakness and make the most of opportunities.

This understanding is critical to minimising the risk of supply chain disruption. **Research** conducted with UK manufacturers by WMG at the University of Warwick and Blue Yonder highlights the importance of supply and demand visibility - 47% of respondents identified a lack of visibility of supplier capacity as a major supply chain constraint.

Once assessed, supply chain resilience should be kept under continuous review. Many manufacturers monitor their supply chains in real-time and increased use of automation and digitalised processes means there is an abundance of data available to monitor the efficiency of production. Choosing the right tools and techniques to monitor this data and predict changes in demand for the company's products and services can drive productivity and profitability.

As investors focus more on ESG to determine enterprise value, organisations are becoming increasingly aware of their carbon footprint and wider impacts on society. Many are choosing to assess and reconfigure their supply chains with this in mind, to keep pace with shifts in consumer behaviour and their influence on market demand.



47% of respondents identified a lack of visibility of supplier capacity as a major supply chain constraint



“ Assessing supply chain resilience on a continual basis allows businesses to gain a deeper understanding of their supply base, as well as their distribution and logistics operations.



Businesses should apply three lenses when assessing supply chain resilience:

(i) Risk

Risk can be a challenging area to assess effectively. Depending on the degree of supply chain complexity, poor visibility of risk and its potential impact can pose a threat both reputationally and in terms of performance. Constructing a detailed model of the whole supply chain will allow businesses to conduct a sensitivity analysis based on ‘what if’ scenarios. These insights can be used to improve resilience and deliver efficiencies.

(ii) Performance

Performance needs to be assessed to determine if the right balance between cost and value is being achieved across the supply chain. The costs of raw materials, energy and labour are volatile and have increased due to economic constraints and the huge growth in global demand for delivery services during the pandemic. In order to continue production and provide customers with good quality items at affordable prices, regular adjustments to the whole supply chain model may be required.

(iii) Capability

Capability assessments will help to establish if the business has the right systems and people in place to respond quickly and effectively to external factors, such as a sudden increase in demand. Some skills are in short supply and it may be necessary to invest in upskilling teams, equipping them to assess supply chain resilience and implement recommendations successfully.

Ultimately, to stress test the robustness of the supply chain, a Board should seek to understand how quickly their supply chain function can quantify the impact of developments – such as a natural disaster affecting all suppliers in a given region; a drastic price increase of a specific raw material on purchasing costs; or a growing backlog in customs clearance in a key inbound port. If it takes more than a few hours to get definitive answers then the supply chain is exposed.

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2. Building agility into the supply chain

The way in which customers interact with products and services has changed dramatically. In the manufacturing sector, customers are increasingly demanding seamless next-day order fulfilment, which requires fully-integrated digital supply chains.

To meet these requirements, businesses must harness sophisticated demand planning and inventory management tools, along with a highly flexible operating model. This will enable them to deliver a speedy and reliable customer service, while minimising inventory and optimising efficiency. The flexible operating model should be capable of adjusting to new products, small batch sizes and rapid product changeovers.

Without these management tools in place, manufacturers will lack the visibility required to respond to market demands in an agile way. More than one in three - 37% - of UK manufacturers consider a lack of visibility of demand from customers as a major supply chain constraint, according to [research](#) by WMG at the University of Warwick and Blue Yonder.

A multiple sourcing strategy can help businesses to increase supply chain agility. This approach allows them to switch rapidly between suppliers, ensuring a continuous flow of goods in the event of supply chain disruption.

Rapid decision making is vital. This requires a fully integrated supply chain, from customer to supplier, to share real-time demand signals and implement fast feedback loops. Access to accurate and real-time data will facilitate better-informed decision making and some emerging software tools can dramatically improve the accuracy of demand forecasting, for example.

There are many benefits of building supply chain agility. As well as helping to drive top-line growth, it can support growth of market share as well as deliver other tangible structural and operational benefits. For example, businesses with agile supply chains can better manage product line complexity, allowing the product mix to flex in line with changes in demand.

Understanding what customers really value will enable businesses to segment supply chains by customer need, and set them up to seamlessly deliver.



37% of UK manufacturers consider a lack of visibility of demand from customers as a major supply chain constraint

3. Future proofing the supply chain

Most businesses recognise that staying the same won't be an option for much longer. Important trends such as the shift to digital, rise of online consumerism and growth of some Asian economies, have been expedited by the pandemic, bringing forward issues that businesses can't afford to ignore.

Growing pressure from international governments to address the problem of climate change, combined with increasing consumer demand for environmentally-friendly products, has pushed sustainability to the top of the corporate agenda. The UN's **Race to Zero** initiative is asking businesses to sign up to a process supporting a resilient zero-carbon recovery.

To future proof their supply chains, businesses should start by considering what products and models of consumption will look like in two, five and ten years' time. The results will vary by industry, but the sustainability thread will be apparent in almost every case.

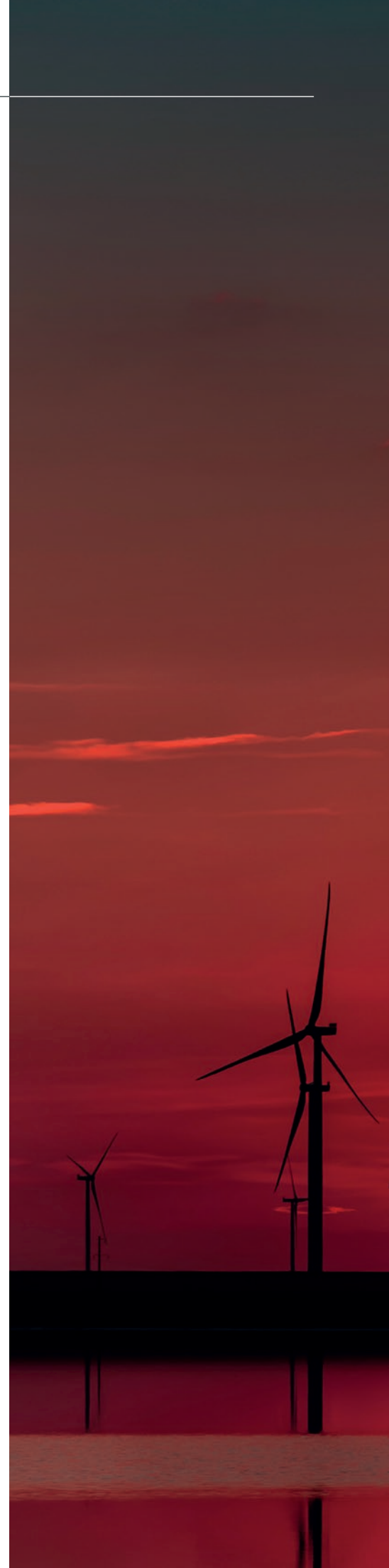
Deciding how far to move and how quickly will be the main challenge for businesses. Some might be making products that are generating revenues now, but could soon be rendered obsolete, while others might be using old world technologies that will soon be superseded.

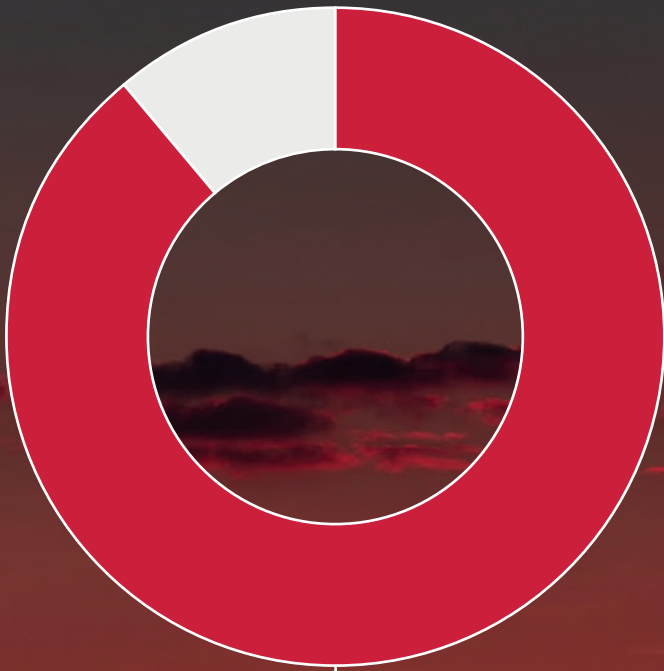
There is little time to waste, however, as manufacturing sector demand is showing early signs of rebounding more quickly than expected in some areas. **Research** published by Fictiv in the US reveals that sustainable manufacturing is a growing priority for 89% of manufacturers and 84% have turned to on-demand manufacturing as a solution.

Future proofing supply chains on the way to a greener and more sustainable future will require a level of detail that many businesses won't have previously considered. They will need to know exactly what's happening across the whole supply chain and understand the environmental impact of each supplier's operational activities. This will involve a detailed assessment of every aspect of their operations - power sources, transportation, material waste, production methods and much more.

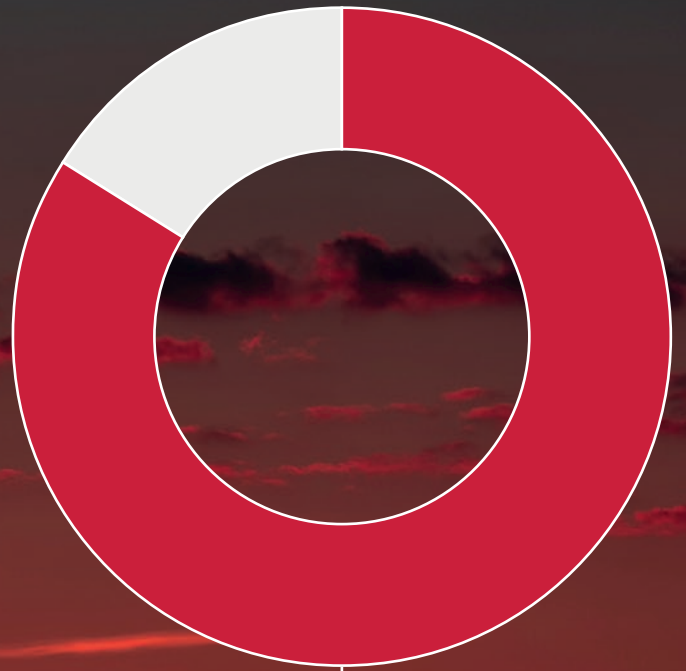
A key strategic benefit of future proofing supply chains is competitive advantage. Businesses that can position themselves as sustainability leaders in their respective industries now could secure significant commercial rewards in years to come.

The next section outlines how businesses should look to embed these elements and, by doing so, ensure they are positioned to drive competitive advantage.





Sustainable manufacturing is a growing priority for **89%** of manufacturers



84% of manufacturers have turned to on-demand manufacturing as a solution

Source: Fictiv – 2021 State of Manufacturing Report



From supply chain **resilience** to **competitive advantage**

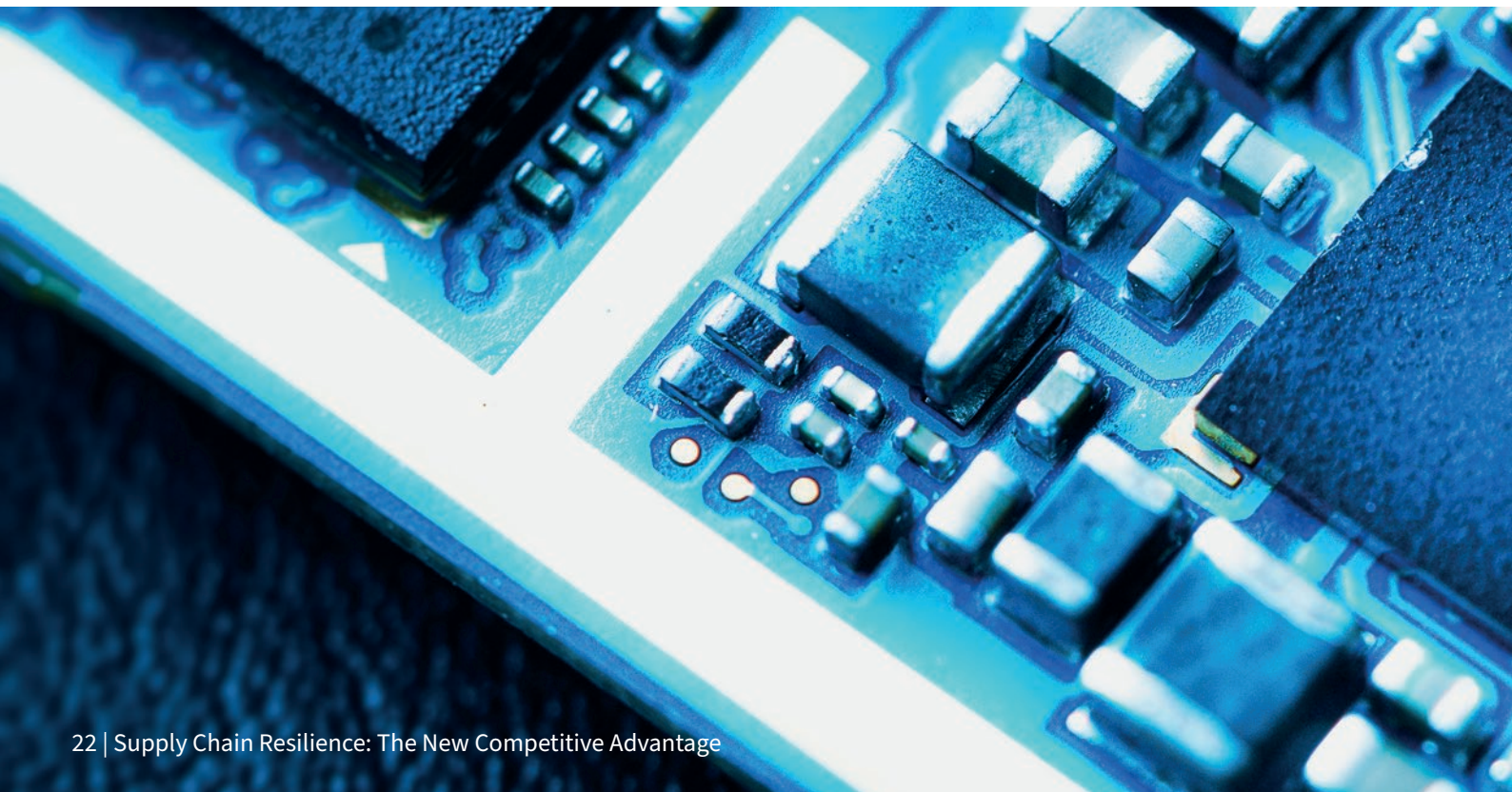
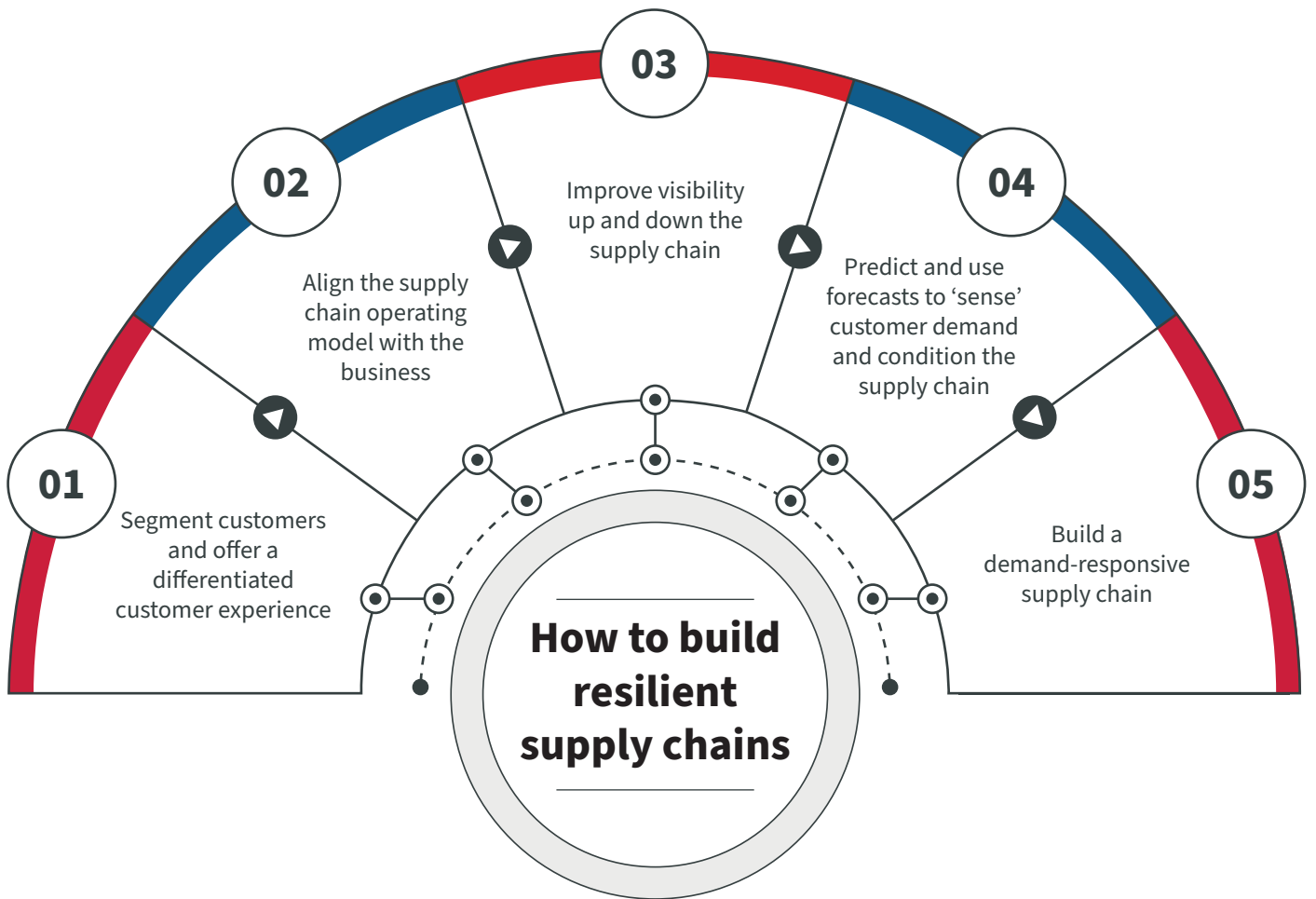


Effectively achieving ongoing supply chain resilience is challenging and requires businesses to think differently about how they manage their supply chains and end-to-end operations.

In many businesses today:

- The supply chain is still largely isolated, and not closely integrated with the customer-facing functions of the business.
- Key performance indicators and subsequent incentives are largely focused on cost reduction and efficiency which, although essential, fail to consider measures such as order times and forecast accuracy, and this can have a huge bearing on customer satisfaction and the overall customer experience.
- Performance targets in functions such as sales, marketing or procurement are not always aligned, which can encourage conflicting behaviour with those rewarded on cost targets or incentivised on volume.
- A lack of common, organisation-wide, end-to-end processes restricts the ability to access reliable data, make robust decisions on future demand patterns or segment customers.
- There is an absence of dynamic demand planning, real-time inventory management and an efficient distribution network that enables customers to order, receive and return products or services 'on-demand'.

Businesses can build **resilient supply chains** and gain a **competitive advantage** by following five core steps



1. Segment customers and offer a differentiated customer experience:

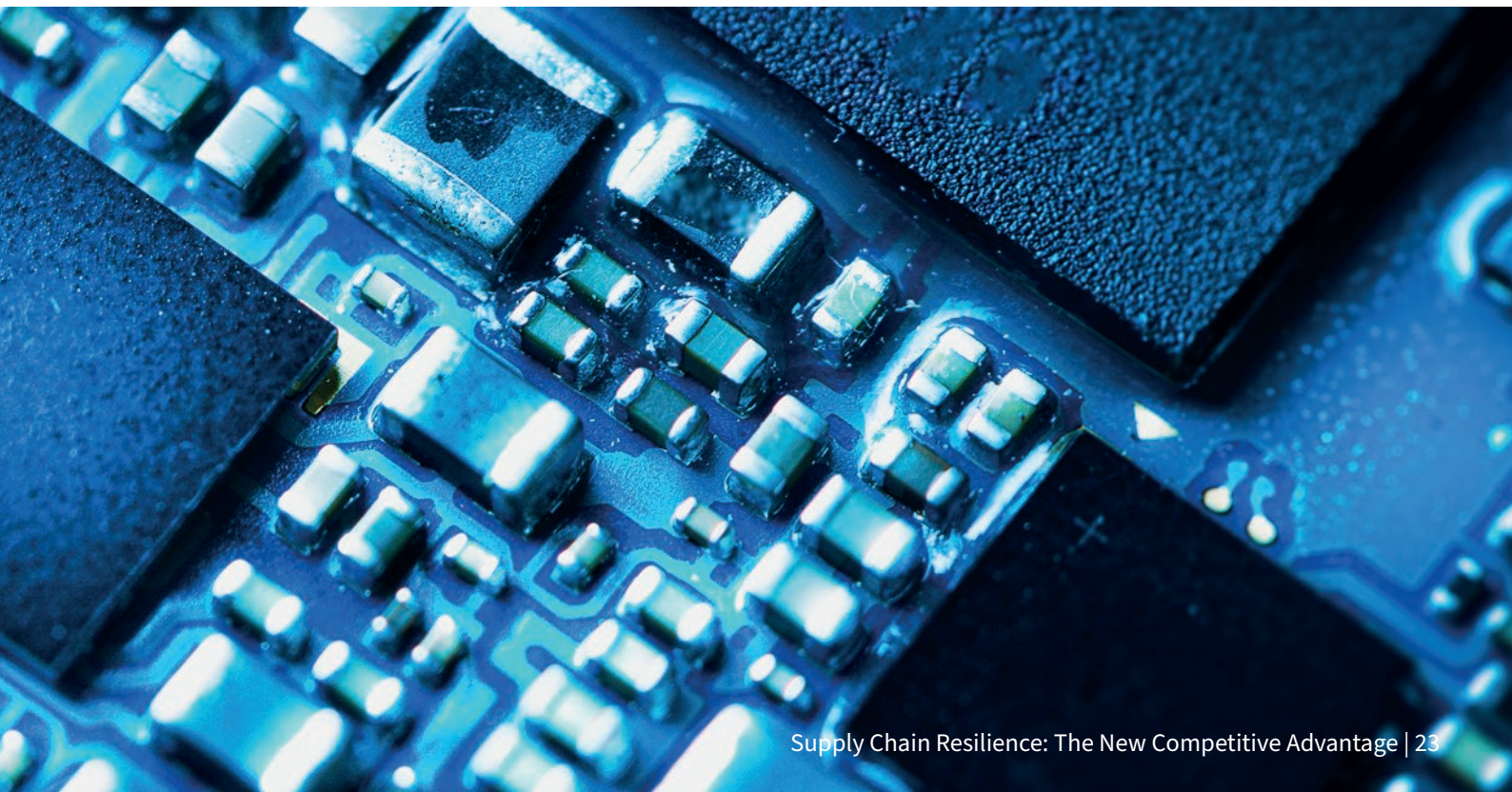
By understanding what customers truly need, businesses can tailor the supply chain to offer a differentiated experience, and by adopting a 'demand-driven' supply chain, they can typically increase sales, reduce operating costs and improve working capital.

In addition, by utilising data to understand the cost-to-serve across different customer segments, coupled with the sales/profit potential, businesses can tailor a different supply chain strategy for each segment.

2. Align the supply chain operating model with the business:

To truly maximise the value of the supply chain it has to be fully integrated along with sales, production, procurement, product development and finance, with harmonised and technology-enabled business processes that allow for responsive manufacturing and fulfilment capabilities. A 'digital-twin' supply chain control tower should capture and use supply chain data to enhance end-to-end visibility, ensuring that supply decisions are in line with strategic and customer objectives.

“ By utilising data to understand the cost-to-serve across different customer segments... businesses can tailor a different supply chain strategy for each segment.



3. Improve visibility up and down the supply chain:

End-to-end visibility relies upon capturing actual customer demand and orders, fluctuations and the movement of materials and products from suppliers to the customer in real-time. This enables a business to understand in detail what is happening in their supply chain – and the next important step is to predict what will happen, moving toward prescriptive and cognitive analytics, which can guide informed supply chain decision making.

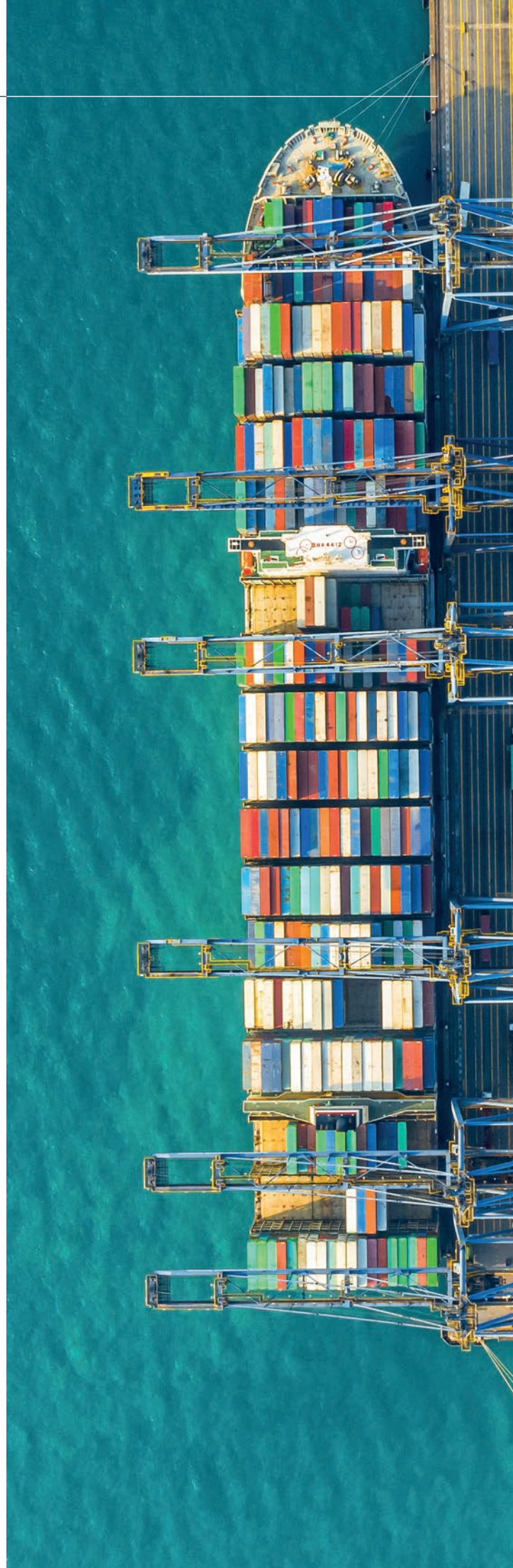
4. Predict and use forecasts to ‘sense’ customer demand and condition the supply chain:

So just how close can a business get to sensing real demand and supply data? Big retailers like Amazon, Wal-Mart and Ocado have invested heavily in AI and software to ‘sense’ customer demand – Amazon can predict 80% of what a customer will buy in the next six months – and they know exactly where inventory, orders and products are in real-time. This visibility extends across their supply chains, allowing suppliers, manufacturers, wholesalers, distributors and retailers to rapidly identify gaps between supply and demand. By utilising demand data more effectively, a business can efficiently manage procurement and replenishment to condition their supply chains in real-time, reducing the risk of product shortages whilst reducing inventory holdings.

5. Build a demand-responsive supply chain:

Many businesses look to achieve responsiveness by building up inventory, but this is both costly and risky. Instead, businesses need to effectively plan ahead for an unpredictable or unexpected event by building strategic relationships and external capabilities with a wider range of suppliers and partners, whilst having the ability to rapidly outsource elements of manufacturing or production.

This, coupled with the ability to rapidly re-configure the supply chain operating model to respond to external events and take advantage of new opportunities, requires suppliers, partners, manufacturing, distribution and logistics to work closely together. It also requires synchronisation with real-time customer demand and augmentation by close-coupled manufacturing stages, balanced stocking and work-in-progress points, and intelligent replenishment policies.





Conclusion

As global trade continues to rebound and the worst-affected markets begin their recovery, those businesses that have re-modelled their supply networks with both risks and opportunities in mind will have the upper hand.

In particular, those businesses that have taken a fresh look at their supply chains and operating structures and chosen to enhance them in ways that improve resilience and enable competitive advantage could strengthen their market standing through the recovery phase. There is much to do, but taking steps to identify supply chain opportunities and weaknesses - and address them now by building in agility and staying firmly focused on meeting future demands - could give businesses an early mover advantage.

Vendigital's model outlines how businesses can use their supply chains to enable competitive advantage. By adopting this approach, businesses can position themselves for growth as economic recovery gets underway; securing a more profitable and sustainable future.

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About Vendigital

At Vendigital, we deliver data-led accelerated cost transformation. We achieve this by combining multi-disciplinary consulting expertise and our proprietary digital platform – through our Insights360 methodology – to generate and embed client-specific operational insights.

An award-winning UK top-20 management consultancy, we work across procurement and supply chain; operating strategy; cost and value engineering; and portfolio management to deliver tangible, quantifiable cost benefits for clients.

Core to our approach is our deep industry and operational expertise, and in-house data science capability – importantly, this is underpinned by our extensive business transformation and implementation experience.

Our consultants are industry specialists with extensive experience of working within the sectors we serve – aerospace and defence; automotive; consumer products; industrial manufacturing; private equity; technology, media and telecoms; and transportation and infrastructure.

Whether you're looking to make longer-term strategic cost decisions or drive operational efficiencies at pace, we work as part of your team to deliver measurable and sustainable results.



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