



OUTSMARTING **TODAY'S SUPPLY CHAIN RISKS**



IN TODAY'S COMPLEX SUPPLY CHAIN
ENVIRONMENT, IT IS CRITICAL FOR MANUFACTURERS
TO PLAN FOR AND MANAGE SUPPLY CHAIN RISKS
ACROSS THREE DISTINCT AREAS.



Introduction

Today's definition of the supply chain includes the entire lifecycle of a product – from sourcing raw materials to manufacturing finished goods, to delivering products to customers and satisfying warranty commitments. At every step of this supply chain paradigm, there are opportunities to improve, efficiencies to capture and risks to manage.

A proactive approach to supply chain risk management can help a manufacturer remain competitive, productive and profitable, especially during unexpected circumstances. It is important for manufacturers to routinely assess weaknesses in their supply chains to improve their preparedness for the next disruption.

We've seen those who are most successful plan for and manage risk across three distinct areas: upstream, internal and downstream. From an upstream perspective, supplier-related interruptions can impact the flow of quality, compliant and competitively priced raw materials and components. Internally, key employee issues and critical equipment failures can disrupt or even shut down production. On the final leg of a product's journey, customer communications, warehousing and distribution can disrupt the movement of goods to the customer and impact customer loyalty.

In this white paper, Travelers shares insights into the supply chain risk environment and the ways to manage risk.

Brian Gerritsen, Travelers Manufacturing Industry Lead

[STRATEGIES FOR MANAGING UPSTREAM SUPPLIER RISKS](#)

[HOW KEY EMPLOYEES ARE CRITICAL TO YOUR SUPPLY CHAIN](#)

[LIMITING SUPPLY CHAIN DISRUPTIONS DUE TO CRITICAL EQUIPMENT](#)

[MANAGING DOWNSTREAM SUPPLY CHAIN RISKS](#)

[RESOURCES TO HELP MANAGE RISK](#)

[SOURCES](#)

Strategies for managing upstream supplier risks

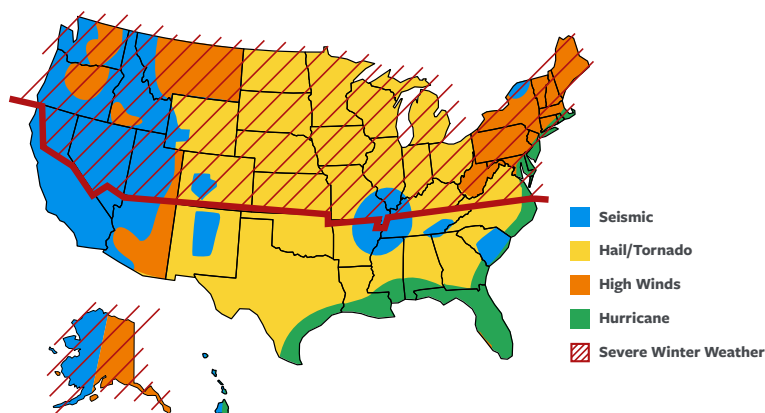
Assessing supplier risk is a critical component of a holistic approach to [supply chain risk management](#) that includes evaluating upstream, internal and downstream risks. To help reduce future negative impacts to businesses, manufacturers should take a fresh look at their supply constraints and implement best practices to manage risks.

Assess and manage supplier risks

Supplier-related interruptions can impact the flow of quality, compliant and competitively priced raw materials and components that you count on in your business. It's important to assess the likelihood that your suppliers could fail to meet supply requirements. Consider the following to help mitigate upstream supplier-related disruptions:

- **Visibility into suppliers.** Conduct a thorough review of your suppliers. Seek to understand the likelihood of disruption to your supply. Consider track record, financial resources, certifications and business continuity plans to determine the readiness of each supplier. From where do they source their materials? How do they ensure the quality? How responsible and stable are they?
- **Single supplier dependencies.** You may source critical materials or components from single suppliers with whom you've built strong relationships. But dependencies on a few suppliers can leave you more vulnerable to disruptions. Establish a trusted network of backup suppliers and practice the same strict oversight in choosing backup suppliers as you would for primary providers.
- **Natural hazards.** Both overseas and domestic suppliers can experience severe weather-related events and other natural hazards that may delay shipments. A natural disaster can create shortages, escalating bids and disappointing would-be buyers. Be aware of the typical weather patterns within the regions where materials are sourced from or moving through when planning for the unexpected.

EVERYWHERE IS VULNERABLE TO DISASTER



This map of the United States is color-coded to show the types of natural hazard threats that may occur in each state.

Washington, Oregon, California, Nevada, Idaho, Arizona and Utah are colored blue to show that these states are prone to seismic activity. There are some areas colored orange to indicate high winds.

The left half of Alaska is colored blue to indicate seismic activity and the right half is colored orange to indicate high winds. The entire state is marked with hatched lines to indicate the potential for winter weather events.

Montana is primarily colored orange to show that it is prone to high winds. The western portion of the state is colored blue to show that it is prone to seismic activity.

Wyoming, Colorado and New Mexico are colored yellow to indicate that they are prone to hail/tornadoes. They each have spots of blue to indicate seismic areas.

Texas is colored yellow to indicate hail/tornado, with some slight green along the coastline to indicate hurricanes.

North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Minnesota, Iowa, Missouri, Arkansas, Louisiana, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky, Tennessee, Mississippi, Alabama, Georgia, Virginia, North Carolina and South Carolina are colored yellow to indicate that they are prone to hail/tornadoes.

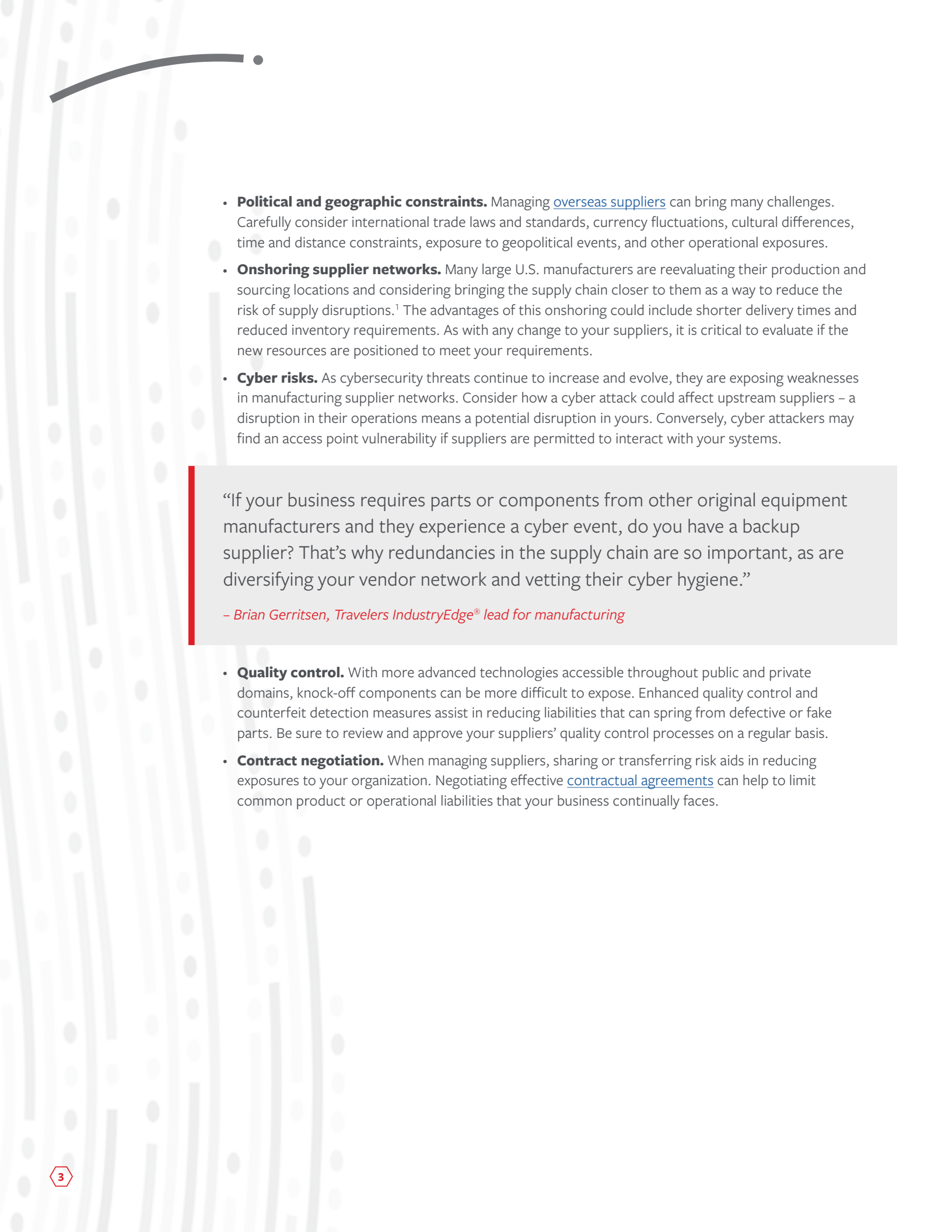
West Virginia, Maryland, Delaware, New Jersey, Pennsylvania, New York, Connecticut, Rhode Island, Massachusetts, New Hampshire, Vermont and Maine are colored orange to show that they are prone to high winds.

Portions of Maryland, Delaware, New Jersey, Pennsylvania, New York, Connecticut, Rhode Island and Massachusetts have green to indicate hurricane prevalence and half blue to indicate seismic activity.

Florida is colored green to indicate hurricanes.

There is a blue area to indicate seismic activity where Missouri, Illinois, Indiana, Kentucky, Tennessee and Arkansas converge. South Carolina has a blue area as well.

From southeastern Texas along the coast to Massachusetts, the map is colored green to indicate hurricane threats.

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- **Political and geographic constraints.** Managing [overseas suppliers](#) can bring many challenges. Carefully consider international trade laws and standards, currency fluctuations, cultural differences, time and distance constraints, exposure to geopolitical events, and other operational exposures.
 - **Onshoring supplier networks.** Many large U.S. manufacturers are reevaluating their production and sourcing locations and considering bringing the supply chain closer to them as a way to reduce the risk of supply disruptions.¹ The advantages of this onshoring could include shorter delivery times and reduced inventory requirements. As with any change to your suppliers, it is critical to evaluate if the new resources are positioned to meet your requirements.
 - **Cyber risks.** As cybersecurity threats continue to increase and evolve, they are exposing weaknesses in manufacturing supplier networks. Consider how a cyber attack could affect upstream suppliers – a disruption in their operations means a potential disruption in yours. Conversely, cyber attackers may find an access point vulnerability if suppliers are permitted to interact with your systems.

“If your business requires parts or components from other original equipment manufacturers and they experience a cyber event, do you have a backup supplier? That’s why redundancies in the supply chain are so important, as are diversifying your vendor network and vetting their cyber hygiene.”

– Brian Gerritsen, *Travelers IndustryEdge® lead for manufacturing*

- **Quality control.** With more advanced technologies accessible throughout public and private domains, knock-off components can be more difficult to expose. Enhanced quality control and counterfeit detection measures assist in reducing liabilities that can spring from defective or fake parts. Be sure to review and approve your suppliers’ quality control processes on a regular basis.
- **Contract negotiation.** When managing suppliers, sharing or transferring risk aids in reducing exposures to your organization. Negotiating effective [contractual agreements](#) can help to limit common product or operational liabilities that your business continually faces.

How key employees are critical to your supply chain

The impact that a manufacturer's workforce can have on supply chains is often overlooked. Many manufacturers have existing employees with specialized skills who cannot be easily replaced, especially during a tight labor market.

From leveraging new ways to find qualified talent to training staff, planning ahead for the potential loss of a critical employee can help minimize disruptions to production. Plus, a culture focused on safety and employee engagement can also help to reduce injuries and manage [workers compensation](#) risks. Consider the following to assess overall preparedness for the loss of critical employees:

Finding qualified job candidates

Finding skilled employees to monitor and maintain today's complex machinery continues to be a challenge for manufacturers. To remain competitive, they are supplementing traditional hiring practices with innovative ways to recruit skilled candidates. One way to combat the skills gap is to:

- **Leverage talent ecosystems.** A manufacturer might collaborate with external partners to strengthen the talent pool. One example could be a partnership with a technical school to create a specific train-to-hire program that provides role-specific training, which may result in a job offer upon successful completion.² Get more tips on how to [attract qualified job candidates](#).

According to the **2020 Deloitte and MAPI Ecosystem Study**, more than **80%** of surveyed manufacturers believe talent ecosystems are critical to their competitiveness, and **41%** have already started forming new relationships to develop robust talent ecosystems.³

Onboarding, training and culture

- **Manage first-year employee risks.** According to Travelers data, nearly one-third of workplace injuries occur within the first year of employment and account for nearly one-third of claim costs.⁴ Be sure to include workplace safety training as part of the onboarding process. Learn more about [managing the risks of injury to first-year employees](#).
- **Create opportunities for broader training.** For some manufacturers, the future of work may involve more supervision of autonomous machines and less actual operation of the equipment. Some employees may need a deeper understanding of the connectivity between the physical and digital aspects of machinery. Employees may need specific training on how to properly and safely operate, service and maintain autonomous and connected equipment and machinery.
- **Create knowledge transfer programs.** Less-experienced employees may not know how to operate, service or repair certain equipment or machines. Identify key individuals who can cross-train the next generation of employees – and help improve preparedness for the loss of key individuals.
- **Create a safety culture.** Ever-changing roles and responsibilities create new dynamics around workplace routines and duties. These continuous shifts create the need to recalibrate [workplace safety training](#) and protocols to prevent accidents and injuries.
- **Empower employees to recognize cyber threats.** Connected machinery potentially exposes proprietary and competitive information to data breaches, malware and ransomware attacks, which have been on the rise in the manufacturing sector.⁵ New hires and existing employees have a critical role in protecting company data and should receive training on your company's data security policies and procedures. Management should support a compliance-based culture.
- **Foster innovation and change.** Building a culture of innovation and change may help employees embrace the rapidly advancing digital shift within the industry. As technology replaces manual tasks, there may be a wider gap for skills required for innovative thinking and change management. With leadership support for new ideas from the plant floor, empowered employees may feel more fulfilled and satisfied, despite the shift in their job responsibilities.⁶

Limiting supply chain disruptions due to critical equipment

For many industries, when a piece of equipment breaks down or is destroyed, a replacement can be brought into play quickly, even if at a great expense, so production can continue.

In manufacturing, however, machinery is often highly specialized with long lead times for replacement. Purchased years before a breakdown, it may have been heavily customized over time to meet specific needs. When a critical piece of equipment cannot be repaired, a replacement may take months to replace, regardless of the cost.



Ways to manage critical equipment risks

Many manufacturers may already have a business continuity plan for what to do when disaster strikes and production comes to a halt. However, many plans fail to address all potential bottlenecks, such as when a critical piece of equipment is damaged, destroyed or fails. The most effective plans help companies prepare for an event, protect assets, respond to emergencies and recover fully operational capabilities in a timely manner.

It starts with creating a business continuity plan that includes key equipment. Consider the following checklist to create effective contingency plans for key equipment:

- **List of key equipment.** The first step is to identify key equipment, taking note of any factors that could make replacement or repair difficult. Key equipment is critical to the operation of the business.
- **Inventory of spare parts.** Identify all spare parts that are critical to operations and are kept on-site. Depending on the time sensitivity, maintain a list of sources for purchasing necessary parts that could be used to repair or replace a non-functioning piece of equipment. Each year, the list should be updated with pricing and delivery times for obtaining necessary parts.
- **Contractors.** Identify several contractors who are qualified to work on or repair equipment, including information about their capabilities and availability.
- **Rental equipment.** Develop a list of sources for rental equipment with details about cost for rental, setup, breakdown, shipping both ways and estimated time from placement of order to startup.
- **Business loss alternatives.** To avoid losing sales or falling behind on contractual obligations, consider several alternatives if equipment loss disrupts production. These include planning with other manufacturers to outsource work during an emergency, keeping inventory on hand to provide products to customers when the manufacturing line is down and running other equipment for longer hours (requiring overtime shifts) to make up for lost production.
- **Connected risks.** Because of their many applications, Internet of Things (IoT) devices are finding their way into every sector of manufacturing. Use of this technology can help to improve production efficiency and quality, but there are inherent risks – many of which some manufacturers are not prepared for. If your operations include connected IoT systems, learn how [manufacturers minimize their exposure to IoT risks](#).

Managing downstream supply chain risks

The digital shift accelerated by the COVID-19 pandemic is reshaping how manufacturers conduct business. It's placing greater emphasis on managing the customer experience, understanding changing customer expectations and reshaping the distribution landscape.

Buying and selling trends have gradually shifted toward e-commerce for smaller ticket items over the past two decades, and the pandemic has significantly accelerated that trend. To remain competitive, some manufacturers are increasing their ability to sell directly to customers – heightening the importance of the customer experience.

42% of executives named e-commerce as a top growth strategy⁷, with some of the highest adoption anticipated in electronics, electrical and precision equipment, and metals equipment manufacturers.⁸

Manufacturers should consider which elements of their downstream supply chain could directly impact customer loyalty, like customer communications, and warehousing and distribution.

Adapting to customer expectations

With shifting buyer mindsets and habits in response to increases in e-commerce, customers expect more transparency into products and supply chain information, such as more accurate information on delivery dates.

More frequent and effective customer communication and service is also expected when circumstances require immediate notifications, like warranty expirations, service announcements, or product notices and recalls. Depending on the criticality, delayed or incomplete customer communications could negatively impact brand loyalty and create reputational risk.

To improve communications to meet these evolving customer expectations, consider the following elements in your customer service training programs:

- Ensure training practices include in-depth product capabilities and intended-use information.
- Revisit training practices often to reflect changes in frequently asked questions as customer expectations shift.
- Establish communication plans for warranty programs and complaint-handling processes.
- Evaluate the effectiveness of product recall programs to be sure they include policies for responding to traditional media and social media reactions.
- Today's buyers demand transparency and some assurances that materials are responsibly sourced and environmentally sustainable. Be sure that employees and post-sale marketing are positioned to address these types of inquiries.



Your customer's risk could be your risk

Manufacturers who specialize in certain products may rely on one customer or a few for a large portion of their revenue. If those customers experience unexpected losses or go out of business, these dependencies could result in business income disruption for you. Take a critical look at your customer base to assess how potential disruptions may impact their ability to purchase or sell your products. Are they located in an area prone to natural hazards or political conflicts? Have you considered the latest applicable trade laws and regulations? Understanding the risks your customers face may inform how you mitigate your own risks.

Managing risk in a changing distribution landscape

To better address volatile demand and heightened customer expectations, manufacturers are reexamining the final leg of a product's journey. While pandemic-related lockdowns led to supply shortages of basic goods, the short-term disruption gave producers an opportunity to reconfigure strategies within their downstream supply chain. Consider the following to reduce interruption of the flow of goods to customers:

- Diversify distribution networks. The increased pressure on warehouses can create a struggle to meet demand. If you rely on a single logistics provider or warehouse, it may be time to consider additional options. Practice the same strict oversight as you would your primary providers.
- Consider distribution partners who are investing in automation. Unexpected and unpredictable ebbs and flows in demand for products have pushed for reconfiguring of distribution centers. Manufacturers may consider seeking out distribution partners that invest in automation to accommodate the increased volume of e-commerce transactions, ultimately increasing customer satisfaction.
- Locate your inventory at any given time during distribution is critical for your customers, and particularly in the event of a product recall or a wide-spread disruption. Real-time data enables manufacturers to pivot quickly to activate their contingency plan to get products through alternate distribution channels and communicate clearly with customers.
- Understand inventory controls and cargo risks. Securing inventory from theft and damage is important to continued business operations. Proper inventory and environmental controls at all storage locations and with all transportation providers can help prevent damage or loss of goods – ensuring your business can continue to meet customer demands. Evaluate how products and/or materials are being stored to ensure storage practices meet your product and security requirements. There's a lot that can happen to cargo on its journey. Protection from [cargo risks](#) is key to protecting your supply chain.
- Create a contingency plan. The overall theme for managing distribution is understanding your risks. From your customers to your network of distribution partners and transportation providers, it is critical to develop and document strategies to protect against interruptions in the downstream flow of your goods or services.

Resources to help manage risk

For over **160** years, Travelers has helped customers manage risks. We continually update our risk management products and services – and as supply chain issues continue to proliferate within the industry, our expertise will be there to help companies prepare for the risks.



Online resources

You can address many exposures in your supply chain by taking advantage of tools and expertise that Travelers offers.

Visit the [Supply Chain Risk Management](#) section of [travelers.com](#) for insightful articles on protecting processes – from supply to production to distribution – for building resilience and value.

Insurance products



Beyond a foundation of property, general liability, workers compensation, auto and umbrella/excess casualty coverages, Travelers offers a suite of specialty coverages that can help protect manufacturers from the evolving risks they face. To view the broad portfolio of products available for manufacturers, visit [travelers.com](#).

For more information, contact your independent insurance agent or broker.

Sources

¹ Travelers Enterprise Market Research Survey, 2021

² <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-2021-manufacturing-industry-outlook.pdf>

³ ibid

⁴ Travelers indemnity claim data, in 2014-18 accident years. Zero-dollar claims excluded. Valued 12/31/2019. Losses are unlimited and undeveloped.

⁵ <https://www.crowdstrike.com/blog/adversaries-targeting-the-manufacturing-industry/>

⁶ <https://www2.deloitte.com/us/en/insights/focus/3d-opportunity/3d-printing-talent-gap-workforce-development.html>

⁷ https://www.citrincooperman.com/uploads/1612/doc/CC_MD_Now_and_Next.pdf

⁸ Travelers Enterprise Market Research Survey



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