



HOW

ADDITIVE MANUFACTURING

BOOSTS SUPPLY CHAIN RESILIENCY



Modern supply chains are especially resilient, even in the face of many common obstacles. However, every system has its limits.

The current supply chain strategy for many businesses involves relying on overseas production and international shipping. These processes are proven to be reliable under normal conditions, but a wide variety of serious issues can cause major delays in production and delivery. Port strikes and political turmoil are just a few types of problems that are both not controllable by businesses and suppliers and can appear without much in the way of advance warning.

Effectively responding to such issues requires a strategy that bypasses these common supply chain processes. Engaging in domestic additive manufacturing with a reliable partner helps your business sidestep such problems. This alternative can be relied on when international supply chains slow down or stop entirely. Let's take a closer look at some examples of problems that severely and negatively impact modern supply chains, and how additive manufacturing can address them.



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PERSISTENT ISSUES FACING MODERN SUPPLY CHAIN STRATEGIES

International relationships are a key part of modern supply chain strategies. The economic and logistic advantages they provide in regular circumstances are powerful. However, there is always a risk of disruption. Consider these examples:

Tariffs

Tariffs apply to a wide variety of imports from overseas, and can involve raw materials, components and finished products. When political strategy changes or conflicts emerge between countries, tariffs can increase significantly. Businesses can and should stay current with news related to the potential for new tariffs and changes to existing ones. An early warning or the identification of a trend means there's time to shift supply chain strategy, but companies still need to have an achievable and productive alternative in place.

Political Unrest

International partnerships are ultimately subject to the stability of the countries in which the involved companies are based. A wide variety of issues are possible, depending on where your own company's partners operate. A major political shift could lead to regulatory changes, and actions seen as deeply unpopular by a country's citizens can disrupt daily life to a great degree — including the regular production schedules that your business relies on.

Port Strikes

Labor practices, benefits and many other aspects of employment can lead to significant and complicated disagreements between workers, whether unionized or not, and the businesses involved in operating ports. And these issues can occur both in the U.S. and in the countries where supplier companies are established. Strikes can be difficult to predict, especially internationally, and can leave inventory sitting on a ship or in a container on the port with no feasible way to access or distribute it.

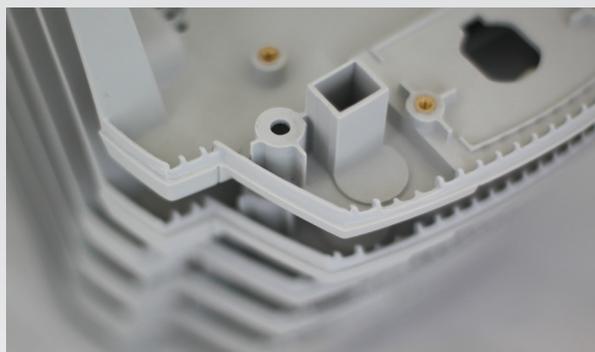
Pandemics, Epidemics and Disease Outbreaks

The global spread of COVID-19 is a clear example of the disruption that major disease outbreaks can cause. And it's far from the only kind of outbreak that can disrupt supply chains. The rapid spread of illness in a country where your supplier operates can slow down or shutter operations even if there's no direct impact on the U.S.



Domestic additive manufacturing offers a network of suppliers that can entirely avoid these issues or respond much more resiliently in the face of them. Partnerships between U.S. companies simply aren't vulnerable to cross-country political disputes, changes to tariffs or external political unrest in the same way as international ones. Even in the face of disease outbreaks, domestic business partnerships are more stable and understandable as compared to overseas relationships.

A network of dependable U.S. suppliers can draw on the wide variety of materials and proven production processes of additive manufacturing to circumvent these major problems related to international production and supply chain distribution. Let's examine why additive manufacturing in particular is an effective approach to production that helps your company boost supply chain resiliency.



ADDITIVE MANUFACTURING: A MORE FLEXIBLE SOLUTION FOR A VARIETY OF NEEDS

Additive manufacturing, also called 3D printing, centers on the careful application of base materials to create a final product. If the definition sounds broad, it's because additive manufacturing has an incredibly broad array of uses.

While additive manufacturing was once only suitable for prototyping, technological advances have made it a viable, dependable and efficient industrial process. Businesses can turn to this option as a way to supplement, augment or even replace current production and sourcing strategies. That's true even in industries with strict quality standards and requirements, like the automotive, aerospace and medical fields. What makes additive manufacturing so broadly useful?

Technology and Material Options

Metals, thermoplastics, specialty materials, flexible materials, ABS and simulation plastics can all be reliably used in many manufacturing contexts. Similarly, the many technologies available for additive manufacturing mean complex parts can be printed at the same time without the need for additional assembly.

Speed of Production

Additive manufacturing can craft finished products in a single workflow. Compared to traditional approaches, where many operations may be required for assembly, the opportunities for time savings are impressive. And that can lead to lowered production costs as well.



From Prototyping to Production

Additive manufacturing can be used in everything from initial product and component design to handling overflow and even replacing standard methods of production. The technology will only grow more effective as time passes, allowing for even greater flexibility.

Access to Many Methods of Production

Businesses don't need to commit to purchasing and operating their own machines — and developing deep internal expertise before beginning production — to enjoy the benefits of additive manufacturing. And even businesses that have some form of additive manufacturing in place can still gain an advantage from outsourcing production for alternative processes that their own equipment can't address. FORECAST 3D takes a technology agnostic approach, providing access to every printing process, machine size and material option available on the market.

B2B and B2C Solutions

Additive manufacturing has proven its worth in the B2B world, and it's growing increasingly powerful for B2C applications as well. Distributive manufacturing, with local facilities producing products on demand, facilitates an agile distribution strategy with reduced inventory kept in warehouses — a benefit that is powerful enough to stand on its own.

More Efficient Warehousing

Additive manufacturing can offer exceptionally fast turnaround times, reducing your company's need to keep large stocks of inventory in reserve. That means similarly speedy distribution to customers and retail locations, as well as the opportunity to significantly reduce ongoing costs related to warehousing.



TAPPING INTO THE BENEFITS OF ADDITIVE MANUFACTURING

With additive manufacturing offering improved efficiency, a clear path to producing a wider array of products and prototypes, and many opportunities for saving time and money, it's a powerful option for businesses to have on hand.

Finding a partner that can help your company address its specific needs — whether that means using additive manufacturing for the first time or taking advantage of a new type of additive manufacturing process — is critical for success. FORECAST 3D is here to help, from concept to commercialization. We take the time to assist your organization in building valuable knowledge around additive manufacturing throughout the partnership. Similarly, we develop mutually beneficial relationships and take care to fulfill our role as production partners.

FORECAST 3D is far from a contract manufacturer — we move past transactional partnerships to provide wide-ranging benefits. With that in mind, we take care to address three core concerns:



SPEED

Additive manufacturing is fast and often presents an advantage over traditional processes in that regard. Speed is a foundational benefit that leads to opportunities to increase output — which can lead to improved revenue — and lower costs.



TRUST

The benefits of additive manufacturing are only truly achieved when companies can trust their partners. Our commitment to positive development in each and every one of our business relationships means we take trust seriously.



ACCESS

Partnering with FORECAST 3D means access to the widest variety of additive manufacturing materials and processes possible. This option provides the best opportunity to unlock the many advantages of this powerful option.





CONCLUSION

Supply chain resiliency is a core concern for every business. Companies that rely on international partnerships with contract manufacturers don't need to completely abandon that strategy. But contingency plans, at the very least, are a must. Options that facilitate short-run production when necessary, like additive manufacturing, keep operations running smoothly.

By building more experience and knowledge around additive manufacturing with the right partner, your company can develop the context needed to see how this valuable process can support operations in both short- and long-term scenarios.

FORECAST 3D offers the best possible conditions for success when it comes to a production partner. We fulfill, inform and help your business unlock the benefits of additive manufacturing. Whether that means an eventual shift to in-house additive manufacturing for your company or an ongoing partnership for on-demand short-run production, we're here to help you overcome supply chain uncertainty. We provide high-quality products and components your business needs to offer a similarly high level of service to your own customers.

To learn how FORECAST 3D can help your business reliably, efficiently and productively access the benefits of additive manufacturing, get in touch with us today.

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