



Demand planning made easy.

How additive manufacturing is helping get products into customers' hands more efficiently than ever before.

The opportunity: Making smarter supply meet stronger demands

Let's face it, customers want their products now. In today's globalized supply networks, faster shipping, shorter lead times, and expedited manufacturing cycles can mean the difference between a sale and excessive inventory. Whether it's a new product, customer channel, or supplier, additive manufacturing (AM) is opening new opportunities to help add value across your manufacturing cycle, redefine how supply routes can work for your business, and get your products to your customers more effectively.

Reimagining just-in-time delivery

In addition to offering flexibility in a manufacturer's catalogue, AM can unlock new options of highly distributed, local, real-time sourcing for production. Which can mean quicker, more affordable sourcing for operations and the ability to seamlessly shift supply channels if there's ever a production issue. In unexpected events, such as natural disasters or sudden trade policy shifts, supply can be instantaneously shifted to a more suitable node of your globalized AM network. The critical factor, of course, is not just a network of AM machines; it's the digitization of the supply chain. The combination of an AM network with the right amount of operational digitization drives responsiveness for your customers and reinforces accountability for your business channels.

Leaner, scrappier, and more scalable production presence

As your production scales to meet new markets, changing operations, and evolving customer needs, AM can help you better manage today's needs and align them with tomorrow's opportunities. AM machines create a footprint that is a fraction of the size of traditional molding, milling, or pressing equipment—not just physically, but also operationally. And that can mean less costly overhead, added space for inventory, and more flexibility for your operations. With the ability to manufacture on the fly, AM frees up manufacturing and sourcing options—which can streamline operations and offer the ability to adjust your supply chain at the drop of a hat. This enables improved speed, cost, and reliability for your products.

The next step: Scaling additive manufacturing

Establishing and scaling AM capabilities across your product development lifecycle demands a thoughtful approach to strategy and execution. Here are six key principles to keep in mind:

- **Business case development:** To develop operating models that take full advantage of AM, organizations should conduct feasibility analyses on high-value parts and assess the manufacture process—from demand management to part assembly.
- **Digital thread:** A globalized AM network relies on a digital core structure to enable the proactive benefits of AM, consisting of centralized design, simulation, and build data.
- **Quality assurance:** Building a quality program that maintains consistent production quality and yields across a distributed network of different environments while providing real-time feedback control is paramount.
- **Talent development:** Effective implementation of AM will require employees throughout the supply chain, even those beyond engineering and operations, to be trained to understand the impact, capability, and new techniques necessary for a well-run digital supply network.
- **Process redesign:** The business case for a distributed and dynamic AM supply network only makes sense if the processes that drive the digital-to-physical operations and production management are designed to optimize the new footprint.
- **Organizational roles and structure consideration:** Distributing production operations to new locations creates the need to define new decision roles, governance, and support systems within the organizational structure—which may have a large impact on operations.

To effectively scale additive manufacturing to its fullest benefit, you need the right support. Deloitte has the digital transformation experience and ecosystem capabilities necessary to help redefine your organization through additive manufacturing and understand how the technology can improve your bottom line. Give us a call to set up a workshop.

Contact Us



Vinod Devan

Principal
Deloitte Consulting LLP
vdevan@deloitte.com



Jason Clark

Senior Manager
Deloitte Consulting LLP
chaclark@deloitte.com



Kellen Smetana

Manager
Deloitte Consulting LLP
ksmetana@deloitte.com

As used in this document, "Deloitte" means Deloitte Consulting LLP, a subsidiary of Deloitte LLP. Please see www.deloitte.com/us/about for a detailed description of our legal structure. Certain services may not be available to attest clients under the rules and regulations of public accounting.

This publication contains general information only and Deloitte is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor. Deloitte shall not be responsible for any loss sustained by any person who relies on this publication.

Copyright © 2018 Deloitte Development LLC. All rights reserved.