

How 3D Printing Can Help Optimize Distributor Operations

Sponsored by:



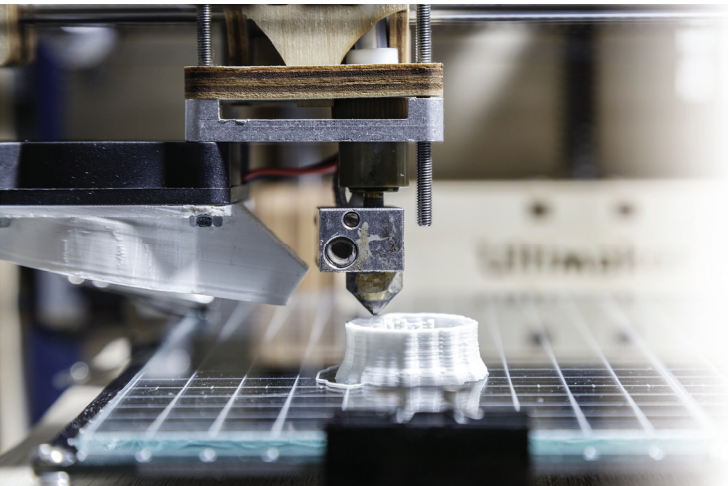
Presented by:

Advantage
Business Media



Additive manufacturing, or 3D printing, is still considered a budding technology by some, but it has been a fast-growing application in the manufacturing world for the better part of three decades. 3D printing debuted in the late 1980s and early 1990s in the aerospace and automotive industries and has since become a crucial part of their operations.

While initial uses of 3D printing largely focused on prototyping, many companies are moving toward manufacturing applications as they realize the technology's ability to help them get products to market sooner, fulfill orders faster and create a competitive advantage.



Industrial manufacturers know these benefits well. But what are the implications for industrial distributors? Data from multiple studies illustrate that 3D printing is expected to be an important feature to buyers and sellers of industrial products and that they expect it to be a part of the market's future. Education about the technology is a great place to start.

A Stratasys 2015 study found that 45 percent of manufacturers that intend to use 3D printing would use it more if they better understood the benefits.¹ So, like for their manufacturer counterparts, the more distributors know about the technology, the more they can utilize its vast potential.

The growing market for industrial 3D printing is further illustrated by the following examples:

- In a January 2016 survey of maintenance, repair and operations (MRO) product buyers conducted by UPS and IDC, 56 percent said they expect 3D printing to play a role in generating certain MRO components and parts, with another 27 percent expecting the technology to play a major role in MRO.²
- In a recent case of those seeing the benefits of 3D printed functional parts, the Marine CorpsTimes in April featured a story on a Marine Battalion that used the technology to print maintenance parts. By doing so, the battalion saw the wait time for some replacement parts cut from months to hours.³



"With industrial 3D printing, you go from awareness, to interest, to trial, to adoption," says Alan Amling, Vice President in UPS's Corporate Strategy group. "We're seeing a large number of customers move from interest to trial. In 2017 we believe we'll see a lot of those go to adoption. We think 2017 will be the watershed year."

"Faster prototyping is the best-known benefit, but it is also gaining momentum as a means of reducing or eliminating dead inventory and more efficient management of out-of-production parts," Amling adds.



"A lot of people said, 'this is a toy, it has no place in our business,' about the computer. It rocked the manufacturing and distribution community. If distributors don't participate [in 3D printing], one day they'll look up and say, 'what happened?'"

At the Industrial Supply Association's 2015 convention in Cleveland, *Industrial Distribution* magazine attended a business forum session where several prominent industrial executives shared their thoughts on 3D printing's potential in the industrial products market.

"It's absolutely going to change everything," said C.H. Hanson president Phil Hanson. "I think it's going to have as big an impact on distribution and manufacturing as the Internet itself. It's an area of huge opportunity. If I can find a distributor who has some expertise in it and is interested in partnering, that's appealing."

Forum host Bill McCleave, president of W.R. McCleave and Associates, echoed that sentiment with an analogy, saying, "A lot of people said, 'this is a toy, it has no place in our business,' about the computer. It rocked the manufacturing and distribution community. If distributors don't participate [in 3D printing], one day they'll look up and say, 'what happened?'"

Benefits of Industrial 3D Printing

The key advantage industrial distributors tend to have over manufacturers that sell direct to end users is in customer service. 3D printing can help distributors further this advantage by offering more customized fabrication to their customers. 3D printing is effective in cases involving short production runs, customized complex products and/or the need to reduce product weight.





In certain cases, complex components can be made better, lighter and less expensively with 3D printing. The technology can be used to make a single part that functions the same or better than a component made of several different parts, all of which need to be manufactured, assembled and possibly shipped.

3D printing allows distributors to custom fabricate parts upon request from customers, especially those in urgent need of a part. This enhances their customer service ability, creates an additional revenue channel and makes a distributor more competitive overall. 3D printing as a service can be especially effective for mid-sized distributors, which are challenged on both ends of the spectrum of trying to match the service level of small companies without having capital resources of large companies.

“[3D printing] encourages you to think about the whole cycle and the total cost of ownership. What price do you put on lead time? What price do you put on having to store and ship parts?”



“3D printing democratizes manufacturing,” said John Hornick, author of *3D Printing Will Rock the World*, in a recent interview with Manufacturing.net.⁴ “Some of those manufacturers are service bureaus. I call them independent fabricators. Because 3D printing substantially reduces the labor costs of manufacturing, these fabricators can offer manufacturing services close to the point of need. All of the services in the supply and distribution chain follow these regional fabricators.”

3D printing can also help distributors minimize their investment in inventory. Dead or slow-moving inventory is a major problem among distributors and suppliers that keep those “just-in-case” parts on hand for old equipment. A 3D printed part would likely be more expensive up-front than a mass-produced part, but would be cheaper in the long run than carrying unused inventory.

“[3D printing] encourages you to think about the whole cycle and the total cost of ownership,” said Richard Garrity, Vertical Solutions VP and General Manager of Stratasys at UPS’s ‘Ask the Experts’ panel at the Inside 3D Printing Conference in October 2015. “What price do you put on lead time? What price do you put on having to store and ship parts?”

Answering the Call

Seeing the rapid rise of 3D printing and its potential, UPS has expanded its investment in the technology and how it is offered. In partnership with 3D manufacturer Fast Radius, UPS last year deployed industrial



3D printers at its UPS Supply Chain Solutions facility in Louisville, KY. There, UPS handles larger, industrial strength orders and ships them out quickly.

Amling said that at Louisville, an order — depending on the size — can be placed as late as 8 p.m., produced and shipped anywhere in the U.S. by the next morning.

The Fast Radius capabilities supplement the 3D Printing services UPS offers in 60 The UPS Stores locations nationwide — locations that handle smaller orders, in addition to customers' packing, shipping printing and small business needs.

“Some companies can’t really justify the cost of having their own machine. For a more advanced model, they’re looking to others for help.”

On May 18, 2016, UPS announced an agreement with SAP to launch an on-demand manufacturing network that will make 3D printing accessible to more potential users. Integrating SAP's supply chain software will make it easier to order parts, and will help to automatically determine whether a part is 3D printable and whether it makes financial sense to do so. “Some companies can’t really justify the cost of having their own machine. For a more advanced model, they’re looking to others for help,” said Wohlers Associates Principal Consultant and President Terry Wohlers at the UPS panel.

Now, through UPS, distributors can take advantage of 3D printing solutions for their customers and for themselves without having to invest in new equipment or employee skill sets. Says UPS's Amling, “Our commitment to 3D printing is just one of the ways UPS is making innovation more accessible and affordable for customers of all sizes.”

In sum, 3D printing offers a wealth of untapped potential. This is a market ripe for disruption. Distributors that investigate 3D printing may find ways to be more competitive and strengthen their customer relationships. There is enormous opportunity for companies that get it right.

For more information on how UPS can help distributors with 3D printing, [click here](#).

¹ Stratascys Trend Forecast – 3D Printing's Imminent Impact on Manufacturing. 2015.

² UPS, Growing MRO business: Closing the gaps, January 2016

³ Bacon, Lance. “Here’s how Marines are using 3-D printing to make their own parts.” <https://www.marinecorpstimes.com/story/military/2016/04/30/heres-how-marines-using-3-d-printing-make-their-own-parts/83544142/?mod=djemlogistics>. April 2016.

⁴ Duffy, Kaylie. “How 3D Printing Is Driving The Growth Of Small Businesses.” *Manufacturing.net*. <http://www.manufacturing.net/article/2016/05/how-3d-printing-driving-growth-small-businesses>. May 2016.