

Market Opportunities for Additive Manufacturing in 2020 Shifting after Weaker 2019, COVID-19 Disruptions

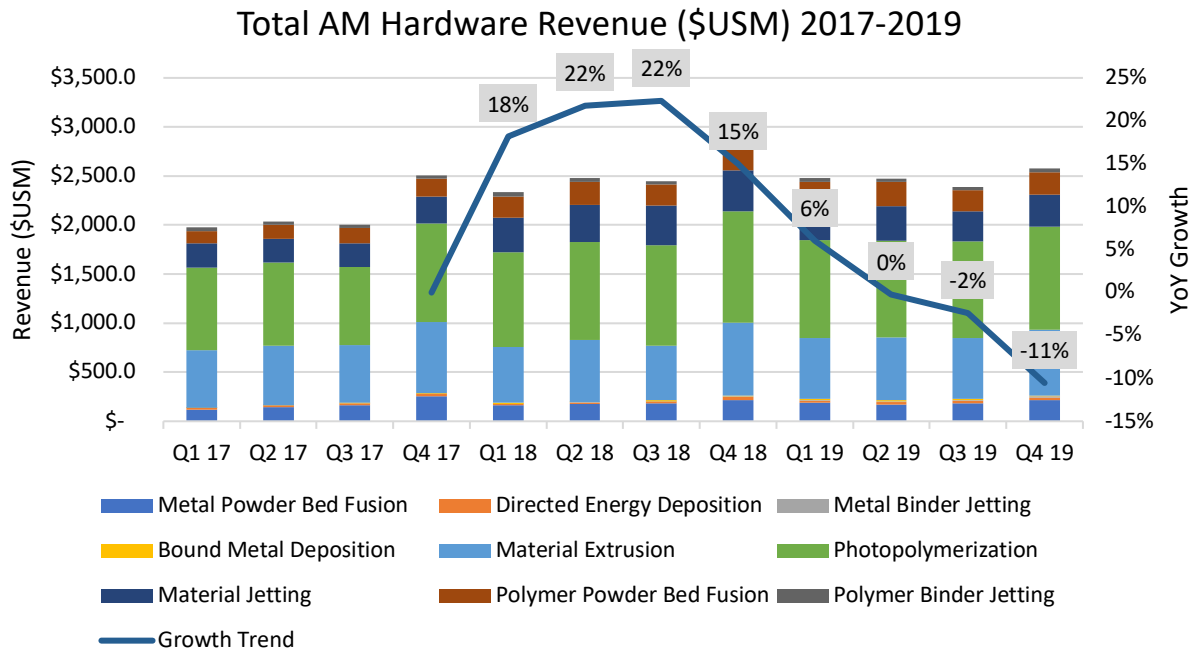
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According to SmarTech Analysis' latest advisory market tracking services, in 2019 the total additive manufacturing market grew at just under 8 percent, its slowest rate since 2009. Factors included both supplier specific issues in terms of technology and difficulties in scaling their business and macroeconomic instability across Europe and Asian markets which weakened confidence and slowed manufacturing and related interests.

Specific to the metal AM sector onboarding and adoption into manufacturing continued to be slower and more costly than expected as the industry has failed to keep up with the hype. While some companies like Prodways, BigRep, Velo3D, and MarkForged have enjoyed success this smaller core group of companies is insufficient to support stronger industry growth.

Analyzing Q4 y/y results, SmarTech estimates that sales of additive manufacturing systems and 3D printers to users in professional environments fell over 8 percent in 2019 compared to 2018. However, excluding printers costing less than \$5,000 (mainly low cost, desktop variants of material extrusion and vat photopolymerization), unit sales fell only about 1 percent worldwide.

However, when compared to prior year annual growths ranging between 13 and 21 percent, the AM hardware market had a challenging 2019. During Q4, historically the industry's strongest period, hardware revenues across metals and nonmetals print systems fell 14 percent compared to 2018, and grew only 3.5% compared to Q3 2019.



Source: *SmarTech Analysis Additive Manufacturing Advisory Services Q4 Report*

During 2019, overall additive manufacturing market revenues, when including revenue from material sales and outsourced print services, still increased year-over-year, but at their lowest total since the industry contracted during the financial crisis of 2008.

Additional highlights from the latest SmarTech Analysis annual market advisory report:

- Metal powders for AM continued to grow at a healthy pace for the year despite a contraction in most metal additive hardware sales, growing an estimated 24 percent during 2019. Material pricing will likely begin to drop in some metal groups more aggressively due to competition and integration with the metal injection molding market, but overall opportunity outlook for metal powders remains very positive
- Polymer printing materials also grew at a pace consistent with recent years with machines continuing to enter the install base and many materials suppliers now active developing new printable materials at an increasing rate. Polymer print material revenues grew 16 percent, but not at consistent levels across various printable material form factors
- Outsourced print services for production of 3D printed parts grew at 9 percent for the year. Some larger service providers reported declines for the year (Stratasys, 3D Systems) while others grew slightly (Materialise), and the likely shift to service providers to support AM initiatives in periods of slim capital expenditures on equipment should, at least, keep the service bureau market stable in 2020 as long as providers can align with part production and healthcare solutions rather than just prototyping

Shift to AM Materials, Services, Jump Started by AM Value Proposition During Global Supply Disruptions in 2020

The onset of the global COVID-19 pandemic has brought about a shift in thinking on additive manufacturing. Because the AM is now more significantly entrenched in production environments as a manufacturing tool and not just a prototyping process, the technology is being leveraged to address shortfalls within medical equipment and parts applications as well as parts for other sectors due to disrupted supply chains.

The global macroeconomic climate is clearly going to be further negatively impacted by the effects of the virus throughout most of 2020, providing little reason for optimism for stronger investment in manufacturing on the whole. Nonetheless, AM has shown that there are strategic advantages of having a more nimble and digitally enabled supply chain which will spur interest in AM initiatives even amidst a poor economic backdrop. And while purchases of machines may not significantly increase during the year, SmarTech expects that utilization of the existing AM installed base will grow. This trend points to opportunities in additive manufacturing for the near to intermediate term to sales of materials to outsourced production services for those companies who have already made the lengthy (and often costly) journey to AM production on a large scale.

This trend could also be predicated not just on a significant expansion of overall global production or manufacturing but rather as a catalyst in the transitioning of existing production to AM rather than other methods as the first step in production. This has been one of the primary value propositions many in the AM industry have been pushing for the past year. The real result for the near term may be more of a stabilization of the AM market throughout 2020, as there are no doubt complications to such short order emergency production response activities which, though they may be suspended temporarily due to the nature of global health emergency in the short term, will have to be better understood for such application in potential future scenarios of general supply chain interruption.

Another critical point that SmarTech believes will stabilize the AM industry and help return it to strong growth in the near term despite economic challenges is the sudden resurgence of interest and attention on AM as an advanced manufacturing solution. There has never been such an opportunity for the technology to deliver on some of its longstanding claims as a supply chain innovation tool and production accelerator.

In addition, while sustainability has been a message by the industry as a selling point the technologies have also a potential role as a means of supporting corporate and industry wide social responsibility. The industry has seen companies and their leadership leveraging the technology to make positive contribution to current conditions and in a very genuine fashion. Additional thinking from SmarTech on this will be forthcoming soon.

The total outcome for the industry though will likely only truly be understood in retrospect as industry leaders tackle the current challenges and then move to resume more regular activities.

About SmarTech Analysis:

Since 2013 SmarTech Analysis has published reports on all the important revenue opportunities in the 3D printing/additive manufacturing sector and is considered the leading industry analyst firm providing coverage of this sector. SmarTech analysis and data drives strategy development in the additive industry, and has been adopted and presented by many of the industry's largest firms.

For more details on our company go to www.smartechanalysis.com

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