
Description: The author is seeing growing interest and development activities around the use of composites – especially carbon- and glass-fiber reinforced thermoplastic materials within the 3D printing/additive manufacturing (3DP/AM) community.

The author believes that such developments are creating new revenue generation opportunities within 3DP/AM by expanding upon current labor-intensive composite materials manufacturing processes for the production of final parts in the transportation, medical and consumer goods industries. 3D-printed composites also add a new material to the ever-growing number of materials that can be printed by 3D printers. And acceleration in the development of nanomaterial based composites, leveraging the materials’ advanced electrical, thermal and mechanical properties, is expected to further expand the range of 3D-printed composite applications over the next ten years.

This report determines the revenue potential from 3D-printed composites by examining both actual fabrication and notable R&D currently taking place at an enterprise and academic research level. It provides an analysis of upcoming developments based on how current applications for composites in manufacturing could be affected by the use of AM.

Ten-year volume and value forecasts of 3D-printed composite activity are provided for each primary adoption segment (aerospace, automotive, medical, service bureau and other industries) with breakouts by type of printers, material chemistries, material output and generated revenues. In addition, this report provides an in-depth look at the product/ market and manufacturing strategies of the leading firms and startups that are now pursuing the composite AM opportunity. In addition, we include profiles of Stratasys, 3D Systems, EnvisionTEC, EOS, 3DXTech, Graphene Labs, Arvelo Labs, Cincinnati Incorporated, CRP Group, Advanc3D Materials, DWS, DeltaMed, Composite Manufacturing, among others.

Today the use of composites in additive manufacturing is limited. However, the upcoming launch of several new technologies able to implement both continuous fiber composites and aligned chopped fiber composites indicates that the industry is about to enter a new phase of expansion. The author believes that AM is now viewed in the industry as a way to streamline and automate manufacturing processes, without sacrificing the benefits offered by fiber based composites in terms of weight optimization and strength.

And, for the polymer 3D printing industry, the ability to 3D print composite materials parts represents a more direct path toward industrial end-use part and component production, including very large and geometrically complex parts for lightweight airplane and car parts.

All of these developments, we believe, are positive for the future of 3D-printed composites. This report will be essential reading for marketing, business development and manufacturing managers to discover where the opportunities are in this evolving market.

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