



3D PRINTING AND ADDITIVE MANUFACTURING

GCG Industry Perspectives Following
RAPID + TCT 2023

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RAPID + TCT 2023, the largest additive manufacturing event in North America, took place in Chicago's McCormick Place on May 2-4, 2023. Greenwich Capital Group (GCG) was present to interact with some of the latest 3D printing leaders and technologies and observe applications from nearly 400 exhibitors ranging from aerospace and defense to medical, automotive, and even furniture.

The Ambitions of Additive Manufacturing

After spending time on the RAPID show floor, one could be forgiven for concluding that anything and everything might one day be 3D printed. In reality of course, additive is not a manufacturing panacea; it is a unique method of production just like machining or injection molding. Each has its own unique advantages or disadvantages as it relates to speed, materials, strength, cost, ideal production volume, and other variables. "Speed" is multi-faceted. Tooling can be eliminated, which greatly reduces lead time, customized parts can be created, the supply chain can be simplified with fewer overall parts required, and the manufacturing location can be distributed, each of which can be game changers. Further, with each next generation of equipment, the printing process itself may become "X%" faster than its predecessor. But perhaps an even larger ambition for additive manufacturing is incorporating its unique capabilities into the engineering and design process for the creation of a product or component that has enhanced properties or characteristics and cannot be manufactured by alternate methods. In other words, not just a faster or cheaper part, but a better part. With a better product, 3D printing can evolve from prototype or customized work toward the grand prize of recurring production volumes at scale.

Industry Valuations and M&A Activity

While additive industry valuations have declined significantly from SPAC-fueled highs in recent years and there has been a market re-pricing for funding early-stage cash flow negative companies in general, there continues to be significant excitement around the sector, and we believe it is still in the early innings of growth and adoption. According to a Research and Markets study, the global additive manufacturing market is expected to reach more than \$76 billion by 2030, with a compounded annual growth rate of nearly 21%.

With so many additive manufacturing technologies and service bureaus in the market, we also expect continued consolidation and M&A activity. Drivers to premium valuations will include unique technologies or applications which provide a better way to design and manufacture parts, scalability at production volumes, and recurring revenue models based on materials, software or services.

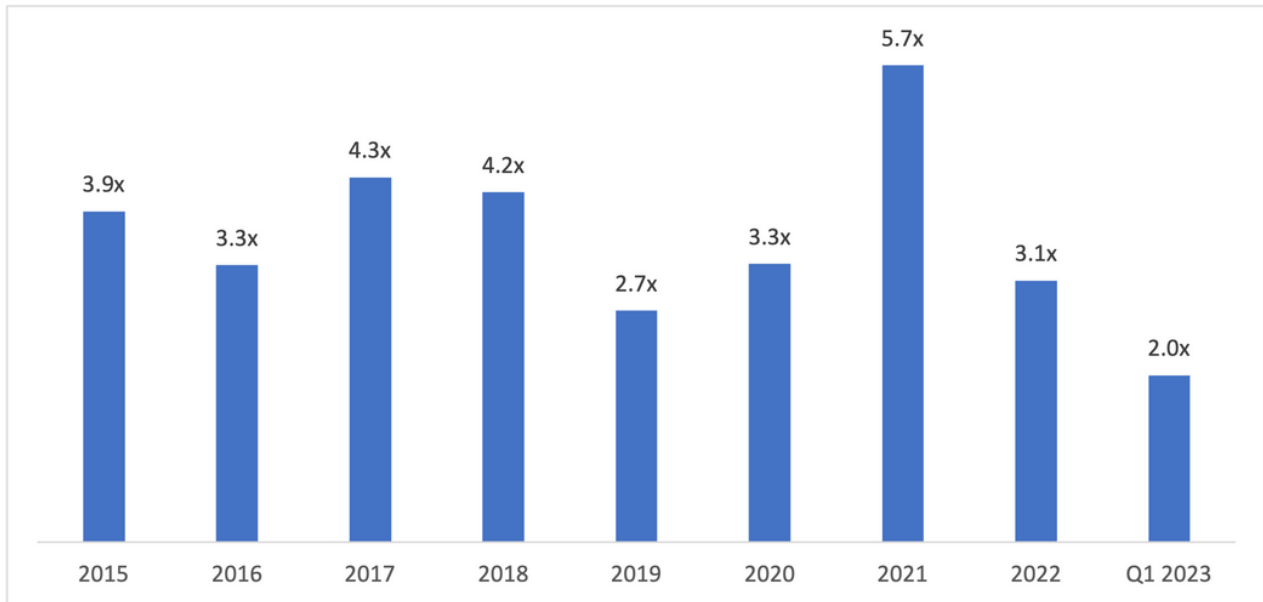


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Public Company Data

Given that many companies in the industry are still scaling into profitability, Enterprise Value / Revenue multiples are the most appropriate observed valuation metric. While multiples peaked in 2021 concurrent with various other high-tech sectors, this also reflects that certain companies have “grown into” their valuations to a certain degree.

Figure 1: Average Annual EV/Revenue Multiples



Select Public Companies include Stratasys, 3D Systems, Proto Labs, Fathom Digital Manufacturing, Markforged, Desktop Metal, Nano Dimension, SLM Solutions Group, Shapeways Holdings, Xometry, voxeljet, Materialise, Prodways Group, Xaar, and Zortrax. Source: CapitalIQ and excluding outputs greater than 30x

Select Industry M&A Activity

Industry participants have looked to M&A as a means to access technology, growth and market share. Peaking in 2021, transaction volume declined approximately 29% overall in 2022, although this was still 51% higher than 2020. Select global industry transactions over the last 3 years are highlighted below.

Date	Target	Buyer	Target Business Description
May '23	Wematter AB	3D Systems Corporation	Manufactures 3D printers
Mar '23	Phoenix Proto Technologies LLC	Re3dTech	Injection molding and additive manufacturing services for production-grade parts
Jan '23	Dinsmore & Associates, Inc.	ADDMAN Engineering group	Product design and development, prototyping, and 3D printing services
Dec '22	Substantially All Assets of Fast Radius, Inc.	SyBridge Digital Solutions LLC	Digital manufacturing and software in the additive manufacturing industry, among others
Sep '22	Identify3D, Inc.	Materialise NV	Property protection, manufacturing repeatability, and traceability solutions
Sep '22	REDWAY3D S.A.S.	Tech Soft 3D, Inc.	3D graphics middleware for engineering and design software development needs

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Sep '22	SLM Solutions Group AG	Nikon Corporation	Metal-based additive manufacturing technology solutions
Aug '22	Additive Manufacturing Materials Business of Covestro AG	Stratasys Ltd.	Photopolymers materials manufacturing
Jul '22	Formatec Holding B.V.	Nano Dimension Ltd.	Ceramic injection molding and 3D printing
Jun '22	Gen3D Ltd	Altair Engineering Inc.	Design software solutions for additive manufacturing
May '22	MakerBot Industries, LLC	Ultimaker B.V.	3D printing tools for offices, classrooms, and homes
Apr '22	Amplify, Inc	ARCH Medical Solutions - Seabrook, LLC	Designs and develops GE Arcam electron beam melting (EBM) machines for additive
Feb '22	Kumovis GmbH	3D Systems Corporation	3D-printing systems for hospitals and medical device manufacturers
Feb '22	Titan Robotics, Ltd.	3D Systems Corporation	Format additive manufacturing systems and industrial 3D printers
Jan '22	Re3dTech	CORE Industrial Partners, LLC	3D printing services for prototype and production parts in plastic, metal, and composites
Jan '22	Castheon, Inc.	ADDMAN Engineering group	Laser powder bed fusion processes for A&D, medical, and industrial customers
Nov '21	Link3D Inc.	Materialise NV	3D printing workflow software for A&D, automotive, medical device, and consumer products
Nov '21	Metalpine GmbH	EOS GmbH	Metal powders for 3D printing
Oct '21	3DXTECH/Triton 3D LLC/Gearbox3D LLC	CORE Industrial Partners, LLC	3D printing filaments for open-source printers and printing services
Oct '21	Xaar 3D Limited	Stratasys Ltd.	3D printing products based on high-speed sintering technologies
Aug '21	The ExOne Company	Desktop Metal, Inc.	3D printing machines, printed and other products, materials, and services
May '21	Adaptive 3D Technologies, LLC	Desktop Metal, Inc.	Polymer resin for additive manufacturing and specialty end applications
May '21	Additive Works GmbH	3D Systems Corporation	Print to shape simulation software
Apr '21	3rd Dimension Industrial 3D Printing Co.	ADDMAN Engineering group	3D printing services
Apr '21	Morf3D, Inc.	Nikon Corporation	Additive design and manufacturing services
Jan '21	EnvisionTEC, Inc.	Desktop Metal, Inc.	Manufactures and sells 3D printers and other proprietary materials
Jan '21	3D Hubs, Inc.	Proto Labs, Inc.	Online marketplace for 3D printing services
Dec '20	Origin Laboratories, Inc.	Stratasys Ltd.	Manufacturing 3D print parts
Oct '20	3T Additive Manufacturing Polymers Limited	Prototol AB	Manufacturing 3D print parts

Source: Capital IQ and GCG Research

IN CONCLUSION

Notwithstanding a backdrop of reduced public company valuations from lofty heights in recent years, the additive manufacturing industry is still in the early innings of market adoption with significant anticipated growth. We anticipate that M&A activity will be strong for well-positioned companies with unique technologies and applications and compelling business models. If you would like to learn more about current market conditions and GCG's experience in the sector, please reach out to Peter Frankfort for a more detailed discussion.



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ABOUT US



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GCG was founded by entrepreneurially minded investment banking professionals focused on building an organization centered around advising clients. We strive to build relationships by representing our clients' long-term interests and earning their trust. In contrast to the practice of pushing transaction responsibilities to junior resources, our philosophy is to deliver personalized, senior-level attention and experience to every GCG engagement. We are proud to offer references that will speak to a differentiated level of service and results.