

Desktop Metal Begins Global Shipments of Shop System for Mid-Volume Metal 3D Printing Manufacturing

Desktop Metal's Binder Jetting System, Designed to Enable Affordable, Batch Production of High-Quality Metal Parts, Is Now Being Installed Throughout North America, EMEA and APAC

BOSTON--(BUSINESS WIRE)-- Desktop Metal, a leader in mass production and turnkey additive manufacturing solutions, today announced the Shop System™, the world's first metal binder jetting system designed for machine shops, is being manufactured in volume and shipped to customers around the world. With installations underway throughout North America, EMEA and APAC, manufacturers such as Jade Creaction LDA in Portugal, Wall Colmonoy Limited in the UK, Alpha Precision Group in the USA, E.A.C. in France, and Hong Kong Productivity Council (HKPC) in Hong Kong, are leveraging high-quality binder jetting technology to print end-use metal parts in volume and at part costs unattainable with legacy additive manufacturing processes.

This press release features multimedia. View the full release here:
<https://www.businesswire.com/news/home/20201119005314/en/>



First unveiled last November at the 2019 Formnext trade conference in Frankfurt, Germany, the Shop System is designed to bring metal additive manufacturing to machine and job shops with an affordable, turnkey solution that achieves exceptional surface finish parts with rich feature detail at

The Desktop Metal Shop System™, the world's first metal binder jetting system designed for machine shops, is being manufactured in volume and shipped to customers around the world. (Photo: Business Wire)

speeds up to 10 times those of legacy powder bed fusion additive manufacturing (AM) technologies. With the Shop System, users can now print end-use metal parts for use in a variety of industries spanning from automotive and oil & gas to consumer products and electronics.

“The Shop System offers the most cost-effective, highest resolution mid-volume production solutions in the industry. Its high-speed, single-pass print engine introduces high-quality

binder jetting to an entirely new market of machine shops, casting foundries, and powder metal component suppliers,” said Ric Fulop, CEO and co-founder of Desktop Metal. “With the Shop System, engineers and plant operators can now eliminate many of the constraints previously imposed by traditional manufacturing methods, like CNC machining, and achieve affordable, reliable, and flexible batch production of complex parts.”

Many early adopters of the technology are already realizing the potential for expanding their manufacturing efforts.

- [Jade Creaction LDA](#) is a leading European company specializing in luxury leather goods, jewelry and watches for several French, Italian and American luxury brands. “Our luxury fashion clients are renowned global brands in the industry, and the Shop System will allow us to quickly respond to their needs with faster production solutions,” said Christophe Pereira, CEO of Jade. “3D printing allows us freedom from multi-stage manufacturing tooling combined with technology innovation that gives our clients’ designers unlimited creative power.”
- [AFPMA de l’Ain of France](#) is the training center of the UIMM (French metallurgical industries association) of Ain French region, with the mission to provide skills that meet the needs of industrial companies in the Ain region, through initial and continuous training. “AFPMA has invested in metal additive manufacturing technologies from Desktop Metal in order to deliver the best technical training in AM,” said Patrice Mayoral, AFPMA CEO. “The Shop System and the Studio System are two complementary machines that will allow us to train operators and realize demonstrators to show trainees, thanks to real applications, the possibilities of each machine and technology to understand the impact of the design and process parameters on the global value chain. Being among the first adopters allows us to be part of European and French national working groups in order to develop qualification and certification for additive manufacturing and validate the training processes to be aligned with the industry needs.”
- [E.A.C.](#), based in France, started its development in 2002 with Swimwear and Lingerie markets. The company is now more focused on the Luxury markets such as leather, cosmetics, packaging, wines & spirits, and jewelry with worldwide clientele. “By enabling mass production of amazingly intricate geometries, metal binder jetting is about to transform the luxury goods space,” said Patrick Chouvet, Manager E.A.C. “As a pioneer in the use of additive manufacturing in luxury goods for some of the world’s most valuable and iconic brands, E.A.C. has been exploring metal Binder Jetting technology over the past four years. After a comprehensive review and benchmarking of the competitive landscape, we chose the Desktop Metal Shop System for its unparalleled print quality, throughput, and affordability.”
- [Cosmind](#), based in Italy, is a technologically-advanced company with experience and know-how in the fields of sheet metal processing, metallic carpentry, high precision mechanical processing, sheet metal forming and assembly. “Cosmind is highly focused on technological innovations. Throughout the years, we have constantly introduced the latest production technologies,” said Carmine Donisi, CEO of Cosmind. “We strongly believe that Binder Jetting 3D printing technology is the natural evolution of the manufacturing sector. In Desktop Metal, we have found all the characteristics of quality and innovation that will certainly allow us to diversify our production.”
- [Alpha Precision Group](#), (APG) based in Pennsylvania, is a leading provider of engineered [powder metal](#), [metal injection molding \(MIM\)](#), and machined components

with a primary focus on providing products that are consistent with reducing emissions, improving fuel economy, and enhancing engine performance. “APG is extremely excited about the recent purchase of the Shop System because we know that this technology is going to change the way that engineers think, not just from a manufacturing perspective but from a limitless design perspective,” said Phillip McDonald, Advanced Manufacturing Engineer at APG. “This technology enables our customers to iterate designs extremely quickly and prototype products with no tooling costs, all with incredibly short lead times. The future is here.”

- [Impac Systems Engineering \(ISE\)](#), a Texas-based professional engineering services firm, has utilized technology, process and people to solve customer engineering challenges. ISE suite of solutions spans from idea, to design, to simulation, to prototyping, fabrication, assembly and production. “For our customers, Impac is a trusted partner, providing a broad suite of engineering and manufacturing solutions across the entire product life cycle,” said Scot Andrews, President of Impac Systems Engineering. “Our 3D printing services play a key role in helping our customers get to market quicker, with better products. With the Shop System, we can scale to hundreds of near-net-shape parts daily -- with dramatically reduced labor costs and expanded geometric flexibility relative to traditional methods such as machining and casting.”
- [VTT Technical Research Center](#), based in Finland, is a visionary research, development and innovation organization that drives sustainable growth and tackles the biggest global challenges of our time, turning them into opportunities for business growth. “We are excited to work with this new metal Binder Jetting technology that has matured from lab to production,” said Pasi Puukko, Research Team Leader, Advanced Manufacturing at VTT. “We’ll first focus on applications benefitting from this technology, but on the longer run, we are certainly looking also for new material solutions, widening the range of metal AM materials and therefore, better serving our customers’ needs.”
- [CETIM](#), the Technical Centre for Mechanical Engineering Industry, is the leading French leader in the fields of mechanical engineering innovation and R&D, and one of the French leaders on metal additive manufacturing development. “3D printing allows CETIM to design parts with new properties and functionalization like thermal behavior, lightening, customization, electrical performances or tribology optimization,” said Pierre Chalandon, Chief Operations Officer for materials, processes and industrialization at CETIM. “Metal binder jetting technology is opening new opportunities -- no tooling process, increasing production capacities, decreasing the global cost, and allowing new materials. Desktop Metal technologies, including the new Shop System, completes our additive manufacturing machines park. We chose to be one the first Shop System adopters, because we are convinced it is now possible for metal binder jetting to decrease the global cost, increase the production rate, increase the quality and definition and accuracy, develop new materials and simulate the process -- especially sintering -- to control the capability and the quality.”

Delivering High-quality Binder Jetting to the Machine Shop Market

The Shop System offers reliable production of serial batches of complex, end-use metal parts in a fraction of the time and cost of conventional manufacturing and comparably priced AM technologies. Featuring the highest resolution and most advanced print engine in the binder jetting market, the Shop System is a complete end-to-end solution that includes a single pass, binder jetting printer; a drying oven for hardening green parts prior to depowdering; a powder station for depowdering parts with built-in powder recycling; Desktop

Metal's furnace designed for accessible, industrial-strength sintering; and integrated powder handling accessories and workflow. This turnkey solution together seamlessly integrates with existing shop operations.

Key Shop System benefits include:

- **Easy to use and operate.** Designed with the modern machine shop in mind, the Shop System produces parts with excellent surface finish and resolution at the push of a button through its easy-to-use software interface. It features engineered powders and processing parameters optimized for use with the system to deliver exceptional quality and ensure repeatability.
- **High productivity.** Featuring a high-speed, single pass print carriage, the Shop System produces high-quality, complex metal parts up to 10 times the speed and at a fraction of the cost of legacy PBF additive manufacturing technologies, amplifying customers' existing output with up to hundreds of end-use metal parts per day. Speeds up to 800 cc/hour at 75-micron layer thickness, enables batches of tens or hundreds of complex printed parts in as little as five hours.
- **Superior print quality.** Customers can print dense, complex parts with incredibly fine feature detail and surface finishes as low as four-micron roughness average (Ra) out of the furnace due to the Shop System's high-resolution printhead - made possible through droplet sizes as small as 1.2pL, with drop multiplexing up to 6pL.
- **Rich feature detail with exceptional surface finish.** Achieved through an advanced single pass printhead with 1600 native DPI, the Shop System delivers 400% higher resolution than legacy binder jetting systems. Reliable print quality is supported by the printhead's 5x nozzle redundancy -- 25 percent higher redundancy than comparable binder jetting systems.

Binder Jetting Technology Ushers in Additive Manufacturing 2.0

As a solution for mid-volume parts production through AM, the Shop System is a critical element of the Additive Manufacturing 2.0 revolution that is reshaping the future of manufacturing. As the emergence of AM 2.0 enables throughput, repeatability, and part costs that can compete with conventional manufacturing processes, the additive manufacturing sector is expected to surge from \$12 billion in 2019 to an estimated value of \$146 billion by the end of the decade¹.

"Many of the benefits that have long been touted for 3D printing - mass customization, complex geometries, lightweighting, assembly consolidation, tool-free manufacturing, digital inventories, and more - all come bundled as part of AM 2.0," said Fulop. "Taken together, this suite of benefits represents a new approach to the way metal parts are being designed, prototyped and now, with the Shop System, manufactured."

Shop System Availability

With variable build box configurations ranging from 4L, 8L, 12L, and 16L, the Shop System is designed to scale throughput to each shop's needs. Pricing starts at \$166,500 for the 4L printer (350 x 220 x 50mm) and up to \$241,500 for the 16L printer (350 x 220 x 200mm). In addition with the Shop System's end-to-end hardware solution, customers will gain access to Desktop Metal's Fabricate MFG™ build preparation software, as well as to the Company's newly-released Live Sinter™ application, a sintering process simulation software that

corrects for shrinkage and distortion of binder jet 3D printed parts during sintering, minimizing process trial and error while improving accuracy. For more information on the Shop System, visit <https://www.desktopmetal.com/products/shop>.

The general availability of the Shop System is another major announcement that follows Desktop Metal's recent signing of a definitive business combination agreement with Trine Acquisition Corp. (NYSE: TRNE), to accelerate its go-to-market efforts and further drive its relentless efforts in advanced R&D.

About Desktop Metal

Desktop Metal, Inc., based in Burlington, Massachusetts, is accelerating the transformation of manufacturing with end-to-end 3D printing solutions. Founded in 2015 by leaders in advanced manufacturing, metallurgy, and robotics, the company is addressing the unmet challenges of speed, cost, and quality to make 3D printing an essential tool for engineers and manufacturers around the world. Desktop Metal was selected as one of the world's 30 most promising Technology Pioneers by the World Economic Forum; named to MIT Technology Review's list of 50 Smartest Companies; and recognized among the most important innovations in engineering in Popular Science's "Best of What's New." For more information, visit www.desktopmetal.com.

(1) Based on *Wohlers Report 2020*, Wohlers Associates

Forward-Looking Statements Legend

This document contains certain forward-looking statements within the meaning of the federal securities laws with respect to the proposed transaction between Desktop Metal, Inc. ("Desktop") and Trine Acquisition Corp. ("Trine"), including statements regarding the benefits of the transaction, the anticipated timing of the transaction, the services offered by Desktop and the markets in which it operates, and Desktop's projected future results. These forward-looking statements generally are identified by the words "believe," "project," "expect," "anticipate," "estimate," "intend," "strategy," "future," "opportunity," "plan," "may," "should," "will," "would," "will be," "will continue," "will likely result," and similar expressions. Forward-looking statements are predictions, projections and other statements about future events that are based on current expectations and assumptions and, as a result, are subject to risks and uncertainties. Many factors could cause actual future events to differ materially from the forward-looking statements in this document, including but not limited to: (i) the risk that the transaction may not be completed in a timely manner or at all, which may adversely affect the price of Trine's securities, (ii) the risk that the transaction may not be completed by Trine's business combination deadline and the potential failure to obtain an extension of the business combination deadline if sought by Trine, (iii) the failure to satisfy the conditions to the consummation of the transaction, including the adoption of the agreement and plan of merger by the shareholders of Trine and Desktop, the satisfaction of the minimum trust account amount following redemptions by Trine's public shareholders and the receipt of certain governmental and regulatory approvals, (iv) the lack of a third party valuation in determining whether or not to pursue the proposed transaction, (v) the occurrence of any event, change or other circumstance that could give rise to the termination of the agreement and plan of merger, (vi) the effect of the announcement or pendency of the transaction on Desktop's business relationships, performance, and business generally, (vii) risks that the

proposed transaction disrupts current plans of Desktop and potential difficulties in Desktop employee retention as a result of the proposed transaction, (viii) the outcome of any legal proceedings that may be instituted against Desktop or against Trine related to the agreement and plan of merger or the proposed transaction, (ix) the ability to maintain the listing of Trine's securities on the New York Stock Exchange, (x) the price of Trine's securities may be volatile due to a variety of factors, including changes in the competitive and highly regulated industries in which Desktop plans to operate, variations in performance across competitors, changes in laws and regulations affecting Desktop's business and changes in the combined capital structure, (xi) the ability to implement business plans, forecasts, and other expectations after the completion of the proposed transaction, and identify and realize additional opportunities, and (xii) the risk of downturns in the highly competitive additive manufacturing industry. The foregoing list of factors is not exhaustive. You should carefully consider the foregoing factors and the other risks and uncertainties described in the "Risk Factors" section of Trine's Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, the registration statement on Form S-4 and proxy statement/consent solicitation statement/prospectus discussed below and other documents filed by Trine from time to time with the U.S. Securities and Exchange Commission (the "SEC"). These filings identify and address other important risks and uncertainties that could cause actual events and results to differ materially from those contained in the forward-looking statements. Forward-looking statements speak only as of the date they are made. Readers are cautioned not to put undue reliance on forward-looking statements, and Desktop and Trine assume no obligation and do not intend to update or revise these forward-looking statements, whether as a result of new information, future events, or otherwise. Neither Desktop nor Trine gives any assurance that either Desktop or Trine will achieve its expectations.

Additional Information and Where to Find It

This document relates to a proposed transaction between Desktop and Trine. This document does not constitute an offer to sell or exchange, or the solicitation of an offer to buy or exchange, any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, sale or exchange would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. In connection with the proposed transaction, Trine filed a registration statement on Form S-4 with the SEC on September 15, 2020, which included a proxy statement of Trine, a consent solicitation statement of Desktop and a prospectus of Trine. Trine also will file other documents regarding the proposed transaction with the SEC. Before making any voting decision, investors and security holders of Trine are urged to read the registration statement, the proxy statement/consent solicitation statement/prospectus and all other relevant documents filed or that will be filed with the SEC in connection with the proposed transaction as they become available because they will contain important information about the proposed transaction.

Investors and security holders may obtain free copies of the proxy statement/consent solicitation statement/prospectus and all other relevant documents filed or that will be filed with the SEC by Trine through the website maintained by the SEC at www.sec.gov. In addition, the documents filed by Trine may be obtained free of charge from Trine's website at www.trineacquisitioncorp.com or by written request to Trine at Trine Acquisition Corp., 405 Lexington Avenue, 48th Floor, New York, NY 10174.

Participants in Solicitation

Trine and Desktop and their respective directors and executive officers may be deemed to be participants in the solicitation of proxies from Trine's stockholders in connection with the proposed transaction. Additional information regarding the interests of those persons and other persons who may be deemed participants in the proposed transaction may be obtained by reading the proxy statement/consent solicitation statement/prospectus regarding the proposed transaction. You may obtain a free copy of these documents as described in the preceding paragraph.

No Offer or Solicitation

This communication is not intended to and shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote of approval, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offer of securities shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

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