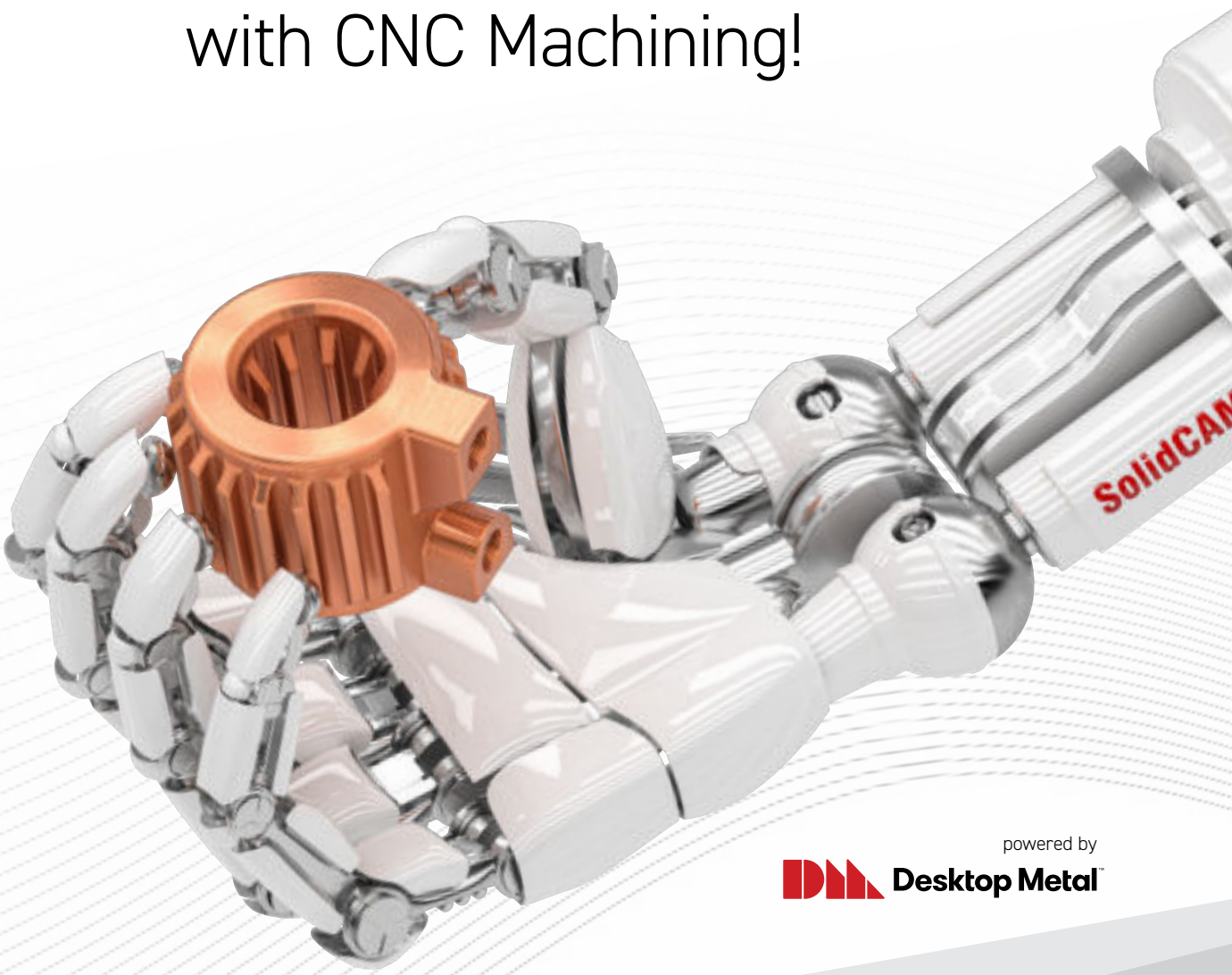
The Future of CAM

SolidCAM

Additive Manufacturing

Combining 3D Metal Printing with CNC Machining!



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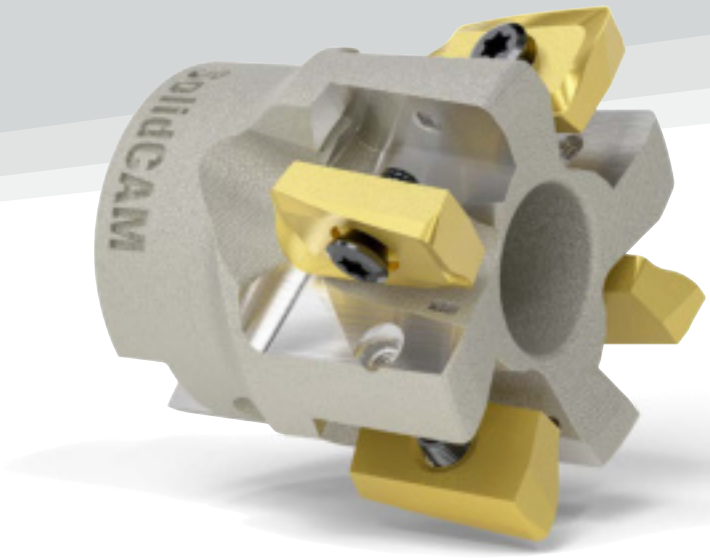


MANUFACTURING UNLIMITED

The complete Solution for cost effective 3D Metal Printing and efficient CNC Machining – all from one source!

SolidCAM Additive – Upgrade Your Manufacturing!

- SolidCAM Additive adds 3D Metal Printing into your manufacturing process.
- Our extensive machining knowledge will help guide the entire process from Design to 3Dprinting, and to CNC Machining.
- 3Dprint near-net target stock, then CNC post-process to spec with SolidCAM
- 3Dprint complex model geometry, at no additional cost, vs simpler geometry
- 3Dprint impossible to machine geometry (Internal passages, infills, undercuts, etc.)

Design.

3D Print.

Sinter.

CNC-Machine.

Additive Manufacturing addresses critical industry needs

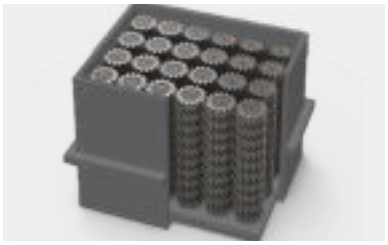
Machine shops are financially dependent on constantly attracting new customers with machining needs. 3D printers enable machine shops to expand business operations into new avenues of growth and recurring income streams.

Additive Manufacturing, with tooling-free production, eliminates the significant disadvantages and barriers to innovation inherent in conventional manufacturing, allowing for faster iterations and a better final product.

Optimized designs

Mass customization

Rapid design to production



Cost effective at any scale

Digital inventory (print on demand)

Low operator burden

The Promise of 3D Printing

Rapid prototyping

Part consolidation

Complex geometries

Design customization

Rapid tooling

On-demand manufacturing

SolidCAM's Global Partnership with Desktop Metal

Founded in 1984, SolidCAM is a global leader in innovative Computer Aided Manufacturing (CAM) software for CNC machining, that supports all CNC machines types and brands, upto multi-channel mill-turnand Swiss CNCs. SolidCAM has today 20,000 CNC Job shop and Manufacturing customers worldwide.SolidCAM is a Desktop Metal sales partner that specializes in providing combined 3D Printing and CNC machining solutions.

SolidCAM has established combined CNC and AM Technology Centers in the US, Germany and Israel. These centers feature Desktop Metal's Studio 2 Systems and Shop Systems solutions, in addition to CNC machines, to demonstrate how Desktop Metal's AM 2.0 solutions complement traditional subtractive CNC machining technologies and workflows.

Desktop Metal, Inc., based in Burlington, Massachusetts, is accelerating the transformation of manufacturing with an expansive portfolio of 3D printing solutions, from rapid prototyping to mass production. Founded in 2015 by leaders in advanced manufacturing and metallurgy, the company is addressing the unmet challenges of speed, cost, and quality to make additive manufacturing an essential tool for engineers and manufacturers around the world.

Desktop Metal® Exists to Deliver on the Vision of 3D Printing: Mass Production

Shop System

Designed with the modern machine shop in mind, the Shop System™ is built to fit seamlessly into your workflow. Produce parts with superior surface finish and resolution versus laser-based 3D printing systems at a fraction of the cost.

The Shop System™ from Desktop Metal introduces high quality binder jetting to an entirely new market of machine shops. Shops can now cost effectively 3D print end use metal parts with unparalleled speed and productivity.

High resolution printhead

The Shop System™ features the highest resolution single pass printhead in the market. With 1600x1600 dpi native (33% higher than the nearest competitor), and over 670M drops per second, the Shop System™ delivers high-speed, high-resolution printing.

Unparalleled productivity

With a high-speed, single-pass print engine, Shop System™ produces high-quality metal parts 10x faster than laser powder bed fusion. Boasting speeds up to 700 cc/hr, the system is capable of producing up to 70 kg of metal parts per day—allowing you to print tens to hundreds of near-net shape parts each day.

No tooling required

The Shop System™ is a tooling-free manufacturing process. Change over to a new job at the press of a button and process multiple complex jobs simultaneously without the need for custom setups.

Adaptive print engine

Users don't have to sacrifice feature detail or resolution for speed. Employing the smallest droplet size on the market (1.2 pL) and automated drop multiplexing up to 6 pL, the Shop System™ achieves superior surface finish, bleed control and rich feature detail at high speed.

Simplified post-processing

Parts on the Shop System™ print fully supported in their powder bed, and feature hand-removable sintering setters. Avoid hours of labor machining off support structures typical to laser-based systems and instead achieve customer-ready parts right out of the furnace.

End-to-end solution

The Shop System™ contains all pieces of equipment your machine shop needs to begin binder jetting—from print through sintering. With upgradable variable build volume configurations (4L, 8L, 12L, and 16L), the Shop System™ is designed to scale to your shop's throughput.

3D printing on the manufacturing floor: volume production with no tooling!

Studio System 2

Desktop Metal's Studio System 2 was designed from the ground-up to fit into your team's workflow. With no solvents, no loose metal powders or lasers and very little operator intervention required, the system makes it easy to start printing metal parts - no third-party equipment or special facilities required.

Using Bound Metal Deposition™ (BMD) process, making complex, high-performance metal parts has never been easier. Bound metal rods allow higher loading of metal powder to binder as they do not require the flexibility of a spooled filament.

Designed for the office

The Studio System 2 was designed from the ground-up to fit into your team's workflow. With no solvents, no loose metal powders or lasers and very little operator intervention required, the system makes it easy to start printing metal parts - no third party equipment or special facilities required.

Easy, two-step processing

Making complex, high-performance metal parts has never been easier. Featuring a breakthrough two-step process, next-generation Separable Supports, and a software-controlled workflow, the Studio System 2 makes it simpler than ever to produce custom metal parts.

High-quality parts

Easily produce difficult-to-machine parts featuring complex geometry like undercuts and internal channels. Fabricate, the software at the heart of the Studio System, automates complicated metallurgical processes to produce high-quality parts with densities and feature accuracy similar to casting.

Key benefits

- Easy, two-step processing
- User-friendly software-controlled workflow
- Patented smart Separable SupportsTM technology for quick post-processing
- Qualified for eight materials
- Designed for office-friendly printing
- A trusted system used worldwide with success

Key use cases

Functional prototyping

Manufacturing tools

Low volume production

Jigs & Fixtures

Envision One

Rapid production of strong, fully isotropic hard plastic end-use parts. The ETEC Envision One features patented CDLM (continuous digital light manufacturing) technology, which provides the ability for continuous printing. With little to no delay between layers, the Envision One delivers exceptional speed, print resolution, surface finish, and part properties.

The Envision One leverages long-chain polymer chemistry to produce strong, stable parts. The result is isotropic parts suitable for end-use applications and capable of standing up to the most demanding conditions.

Print technology
Continuous Digital Light Manufacturing (CDLM)

Build envelope (L × W × H)
180 × 101 × 330 mm (7.09 × 3.98 × 13 in)

XY resolution
60 µm (with patented pixel tuning)

Z resolution
50–150 µm (material dependent)

InventX

Compact, easy-to-use system for high-quality small parts

The entry-level InventX reliably produces functional parts in a variety of materials, including metal, ceramics, and composites by selectively binding thin, cross-sectional layers of fine powder with Triple ACT advanced compaction technology. With an open control system and various printhead sizes (80, 30, or 10 picoliters), you're in full control of the output in an easy-to-manage build volume. The InventX is used to process stainless steels, tool steels, nickel alloys, aluminum and titanium alloys, and metal composites as well as technical ceramics such as silicon carbide and aluminum-infiltrated boron carbide (B4C).

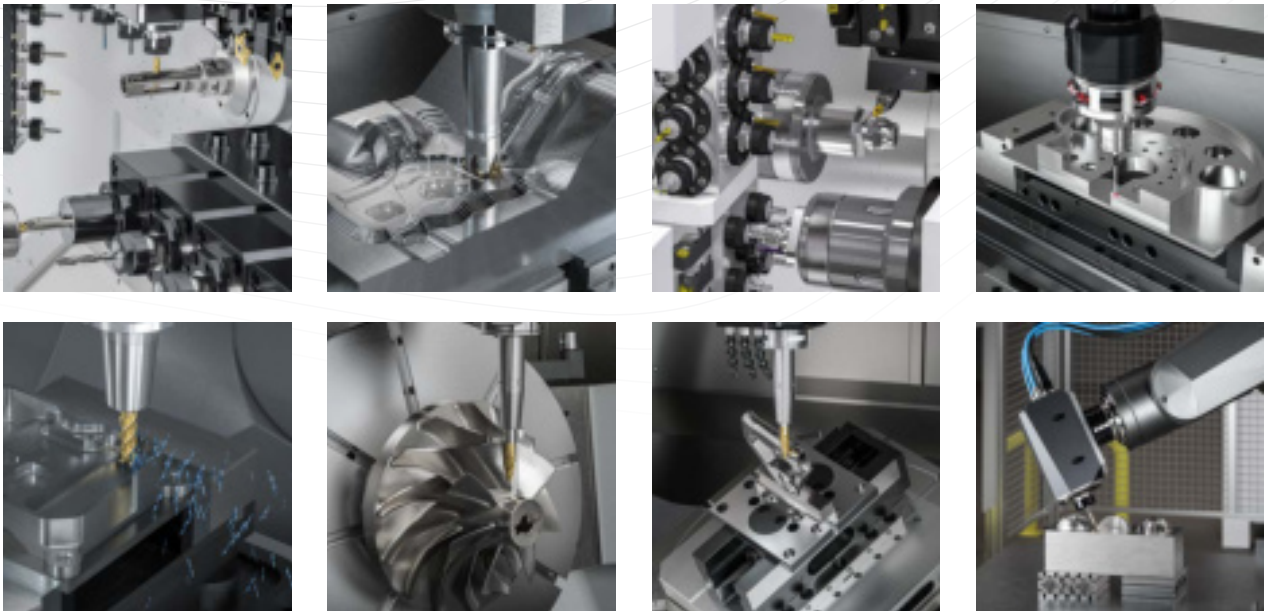
- Compact and affordable: it only takes only 8 kg standard MIM powder to get started. The small build volume keeps ongoing operating costs low
- Using widely available and relatively low cost feedstock from powder injection molding processes makes the system affordable to operate for education, research, prototyping, rapid product development, and short-run production of small components
- Patented Triple ACT advanced compaction technology dispenses, spreads and compacts ultra-fine MIM powders
- Wide range of metal print materials: 316L, 17-4PH, 304L, Inconel 718, M2 and H13 Tool Steels, Copper and more

Print technology
Triple ACT binder jetting

Build envelope (L × W × H)
160 x 65 x 65 mm (6,3 × 2,5 × 2,5 in)

Propriarity
54cc/hr at 65 µm layer thickness

Print resolution
400 µm



THE SOLIDCAM ADVANTAGE

- Easiest-to-use CAM system with short learning curve
- Seamlessly integrated in SOLIDWORKS and Inventor, with extensive import of all common CAD data formats
- Patented SolidCAM iMachining unique technology
- The leading integrated CAD/CAM solution that can support the most complex Mill-Turn & Swiss-Type CNC-machines on the market

With over 38 years of experience in the development and support of SolidCAM, we have created the most powerful CAM solution that takes your CNC machines to maximum productivity.

SolidCAM, a Certified Gold-Product for SOLIDWORKS and InventorCAM, an Autodesk Certified Product, provide seamless, single-window integration and full associativity to the SOLIDWORKS and Inventor design models.

SolidCAM
Additive Manufacturing

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SolidCAM in Your Country
Contacting a SolidCAM office or reseller is easy. The complete list of our worldwide, dedicated distribution and support network is available on solidcam.com

- SolidCAM Additive will educate and guide you to best leverage the advantages of combined 3D Metal Printing and CNC-Machining.
- We know the limitations and where 3D Printing technology excels – so same as we provide practical technical support to SolidCAM customers for CNC machining, we offer the same for 3D Metal Printing.
- Together with you we can investigate your parts and evaluate whether "this can be done with 3D Metal Printing or not" and "how much cost saving can be achieved with 3D Metal Printing" and "what CNC post processing is required".
- We consult you regarding modifying the original SOLIDWORKS 3D model to be ready for 3D Printing (i.e., holes are removed, additional material added to be machined faces, etc.) to guarantee you are setup for successful postprocessing by CNC machining.

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