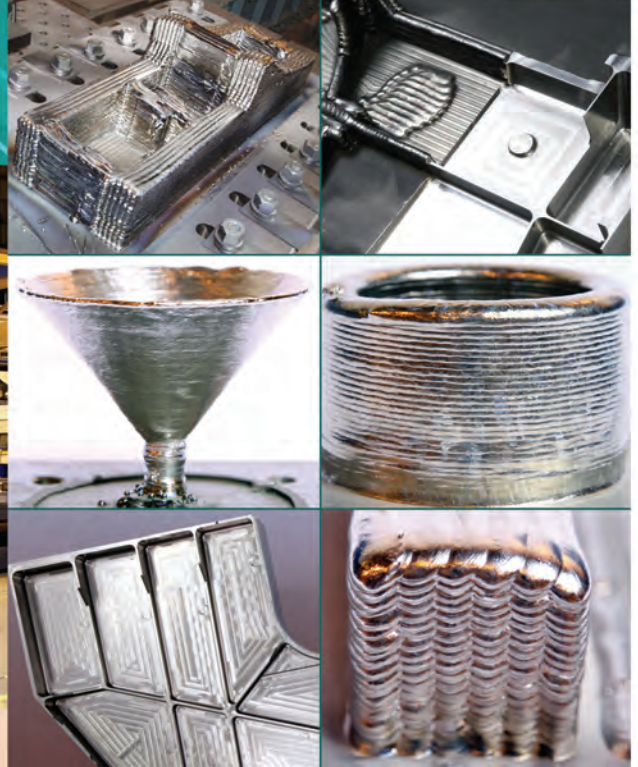


SCI AKY INC

WELDING SYSTEMS AND PROCESSES THAT LEAD THE WORLD

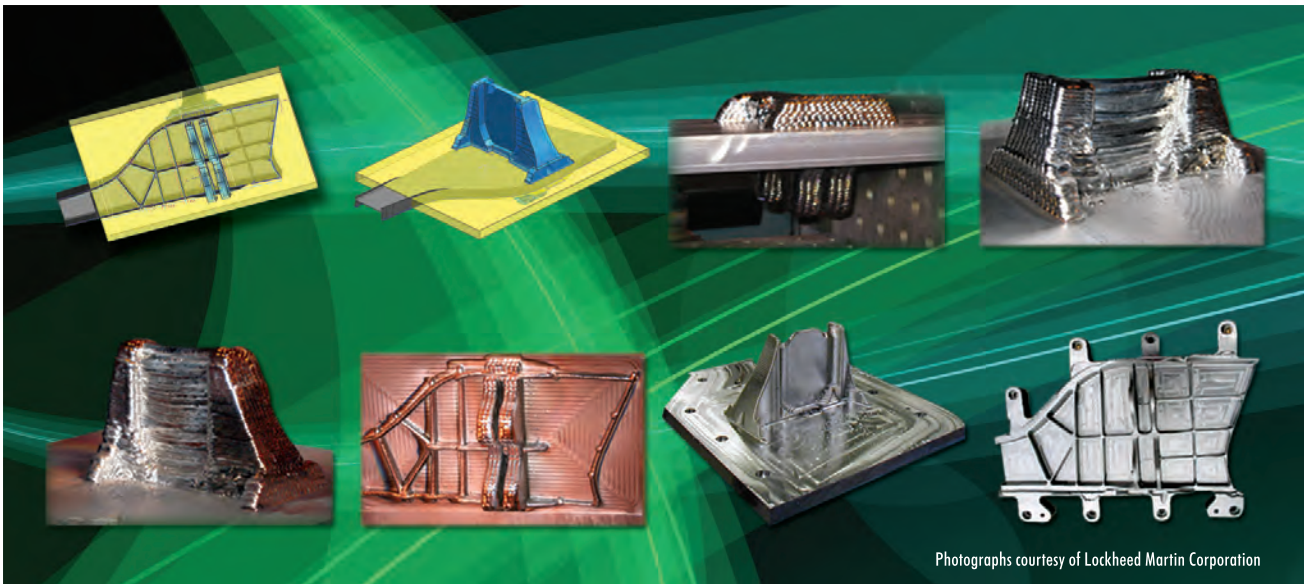


Direct Manufacturing
sciaky.com

Prepare for Impact—Sciaky's Direct Manufacturing Solution will Amaze You.

Let us show you how Sciaky's Direct Manufacturing (DM) solution will impact your profits, your efficiency, the entire way you look at your part manufacturing process. Sciaky's DM solution is the first commercially-available, large-scale, fully-programmable means of achieving near-net shape parts. The solution utilizes Sciaky's state-of-the-art Electron Beam Direct Manufacturing (EBDM) technology to produce functional prototypes and production parts at a fraction of the cost of traditional manufacturing methods.

Starting with a 3D model from a CAD program, Sciaky's fully-articulated, moving electron beam gun deposits metal, layer by layer, until the part is complete. Depending on the part being manufactured, deposition rates can range up to 250 cubic inches per hour. With a light alloy, such as Titanium, this translates to a real-time deposition rate of 40 pounds per hour. A wide range of engineering alloys are compatible with the DM process and are readily available in the form of welding wire from an existing supply base. These include, but are not limited to, stainless steels, Cobalt alloys, Nickel alloys, Copper Nickel alloys, Tantalum, as well as many other high-value materials.



Photographs courtesy of Lockheed Martin Corporation

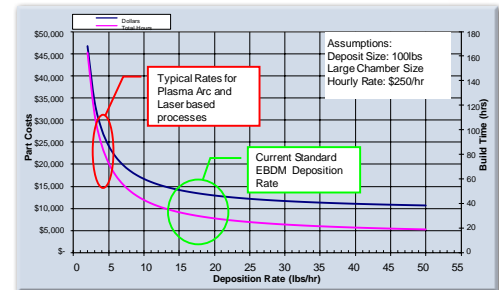
Putting DM to work. Sciaky's DM process begins with a 3D CAD model, which is then used for deposition path planning to build the near-net shaped part in a layer upon layer method. The original part model is modified such that final machining operations can net a finished part. Additionally, the part is evaluated for symmetry and other features that can be optimized in conjunction with the starting substrate plate. Once deposition is complete, the preform may be subjected to additional testing and heat treatments prior to final machining.

Less material + Less machining time + Shorter lead times = Maximized cost savings!
To learn more, call us at 877.450.2518, or visit us at sciaky.com.



Sciaky's DM solution will:

- Drastically reduce material costs. Aerospace Tier 1 suppliers calculate "Buy-to-Fly" ratios for structural Titanium parts that are machined from a billet or forging. For example, a 250 lb billet that nets a 5 lb fly away part would have a "Buy-to-Fly" ratio of 50.
- Slash your machining time by as much as 80%.
- Dramatically shorten your lead times. The fastest process for many first article parts is through the use of off-the-shelf flexible tooling.



Direct Manufacturing cost effectiveness versus other processes.

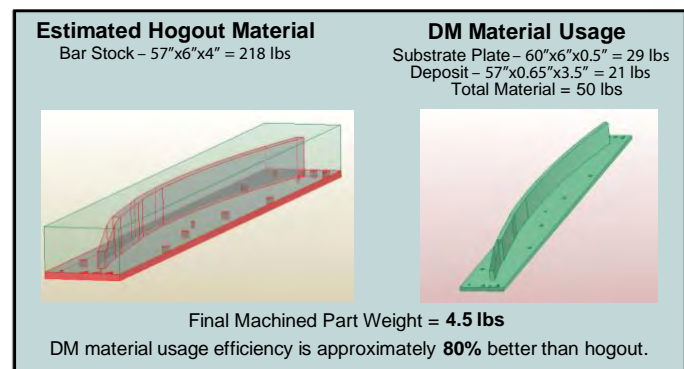
Additional benefits of Sciaky's DM solution

It Comes with an Intuitive Process Control System

Sciaky has developed an adaptive closed-loop control system that is designed to automatically maintain key process characteristics, such as melt pool geometry, throughout a part build, which assures repeatable quality and consistency.

It Adds Quality and Cost Control Features to your Manufacturing Process

- Repair worn, damaged or mis-machined parts in manufacturing
 - Additive process can recover high-value parts.
- Provides "Parts Now" and in-the-field repairs at remote repair stations
 - Ideally suited for DoD depots.
 - Adds to greater availability of assets.
 - Eliminates storage or platforms awaiting repair parts and delivery.
 - Permits quick refurbishment of legacy systems.
 - Permits recovery and re-deployment of high value components.
 - Minimizes inventories and eliminates large lot re-supply requirements.



Sciaky's DM process has been developed to deposit material only where it is needed to reduce the amount of starting materials required, which also translates into reduced time for machining. The above example is of a titanium aircraft material comparison.

It Gives You an Edge Over the Competition

- Increases machine shop yield and throughput
- Provides competitive pricing leverage

It's Green

Sciaky's DM solution is an inherently green process that saves energy, eliminates waste and reduces emissions.



Finished titanium chord.

SDVOSB · CAGE CODE 53610 · ISO 9001:2008 · AS9100C · Nadcap AS7003/7110

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