



DMLS

Direct Metal Laser Sintering

TURBOCAM has been serving the turbomachinery industry for nearly 30 years with advanced manufacturing solutions. We have held design-for-manufacturing events with clients for decades, but DMLS allows us to flip that paradigm on its head by offering nearly unlimited potential for engineers to create previously impossible solutions, embracing a new era of design-driven manufacturing.



DMLS is an additive manufacturing technology that creates metal parts with highly complex geometries directly from 3-D CAD data in hours instead of days or weeks and without any tooling. The software “slices” the model into thin layers which the DMLS machine then builds layer by layer, fusing metal powder into a solid part by melting it locally using a focused laser beam.

DMLS holds many benefits over traditional manufacturing techniques such as:

- Creating internal features and passages that can't be cast or otherwise machined.
- Allowing for complex assemblies to be simplified to fewer parts.
- Parts are built in a matter of hours.
- Parts can be built out of most alloys (We currently offer aluminum, 15-5 steel, 17-4 steel, Grade 5 titanium, Inconel 718® Hastelloy X, and Cobalt Chrome.)
- Allows for more rigorous testing since prototypes can be functional hardware made out of the same material as production components.
- Excellent detail resolution and surface quality with high hardness and strength.
- Fully instrumented without disrupting performance.

TURBOCAM can build parts up to 250mm x 250mm x 289mm, which are ideal for:

- Prototypes – Rapid delivery cycle is ideal for new products.
- Production – Ideal for parts or assemblies with complex geometry.

Since an additive-manufactured part in metal is usually not a finished part, you cannot succeed at DMLS without CNC machining capabilities. TURBOCAM has state-of-the-art manufacturing facilities and our experienced staff understands the demands of today's advanced aero engines. We are uniquely positioned to transition a DMLS “build” to a precision-machined turbomachinery flowpath component.