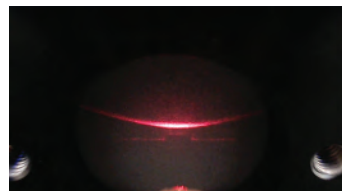


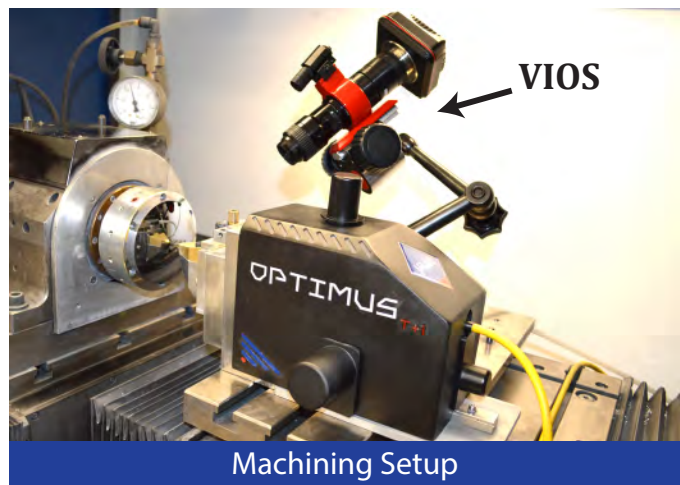
HALO<sup>®</sup> Beam Alignment System



Position Optimization



Power Optimization



Machining Setup



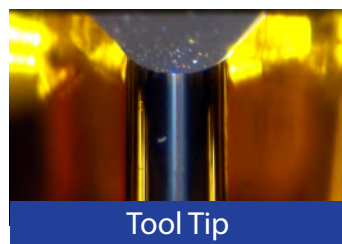
On-Machine Inspection



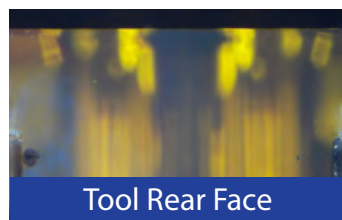
Machining



Tool Inspection Station



Tool Tip



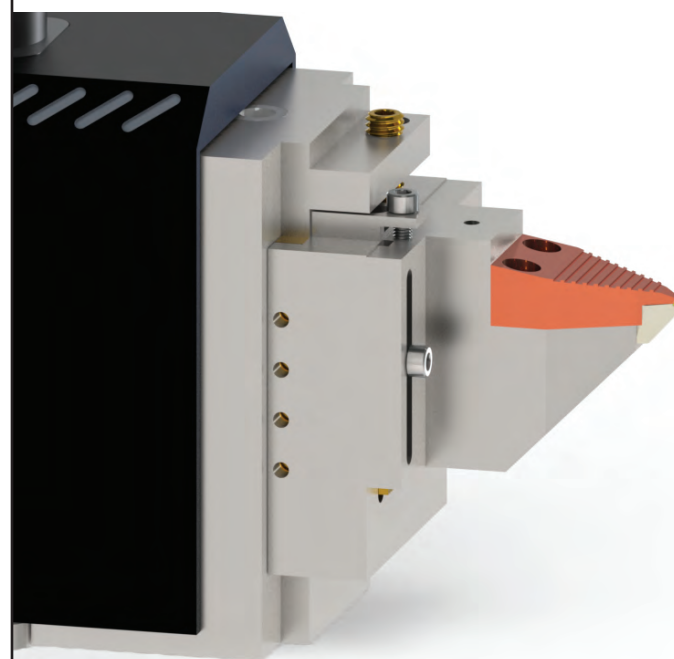
Tool Rear Face



Laser Safety Barriers



Laser Control Station



*Cutting Edge Precision  
Laser Focused*



Improve Part Quality

Extend Tool Life

Increase Throughput

Quick Payback

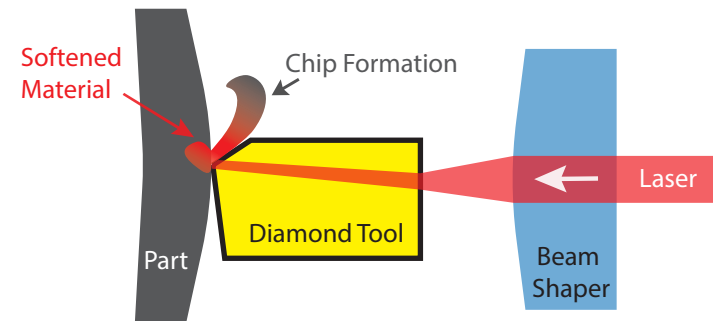
**Micro-LAM, Inc.**

[www.micro-lam.com](http://www.micro-lam.com)

5960 S Sprinkle Rd, Portage Michigan 49002, USA | +1 (269) 288 - 4100

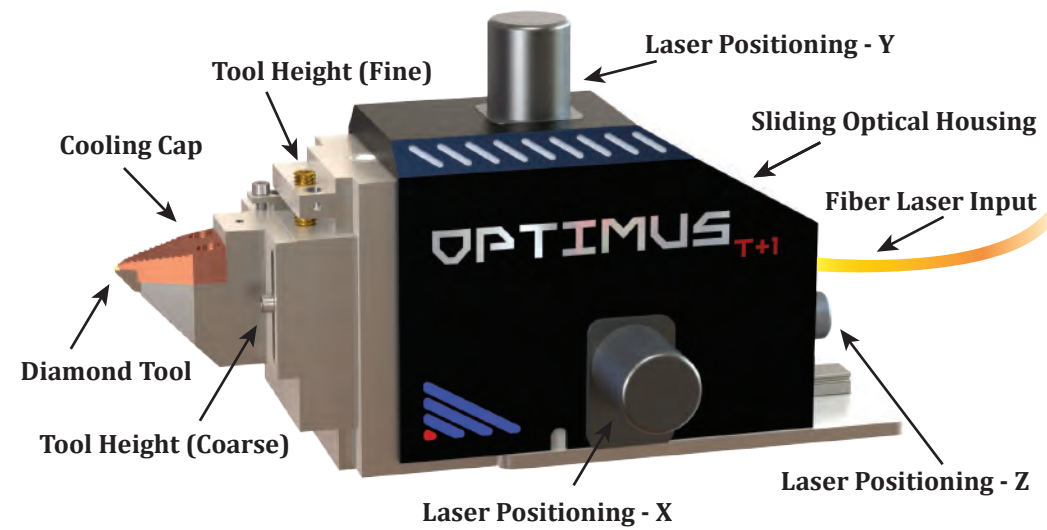


## The Patented Solution



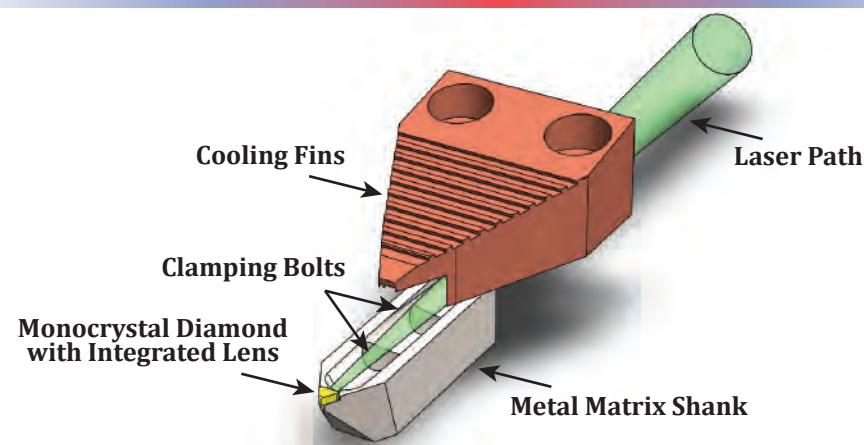
- ◆ The laser beam passes through an optically transparent diamond tool.
- ◆ Laser delivered precisely at tool-workpiece interface
- ◆ Innovative solution proven through extensive research & development
- ◆ Issued patent with 20 claims

## Optimus<sub>T+1</sub> Key Components

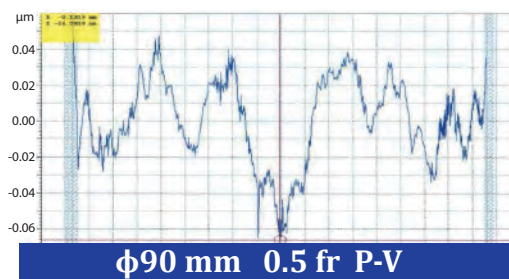
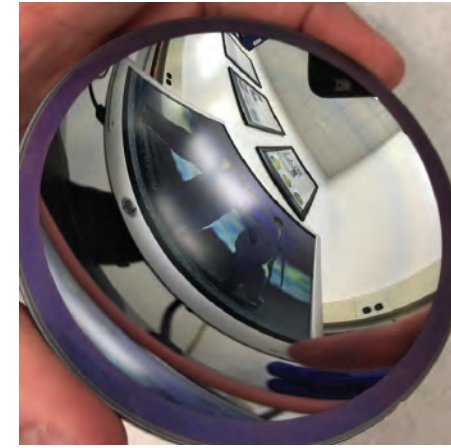
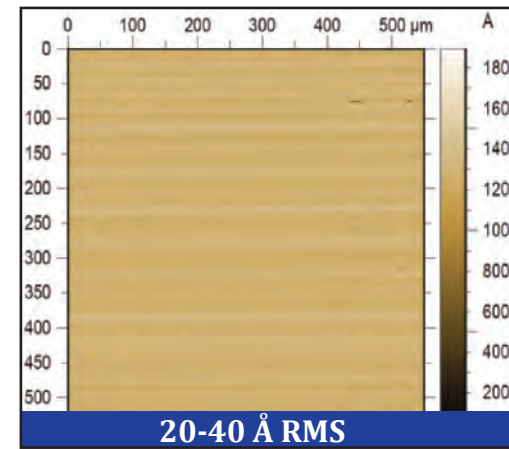


- The Optimus<sub>T+1</sub> tool post also accommodates conventional diamond tools.
- The optical assembly is isolated from the tooling for enhanced stability.

## Proprietary Tool Design

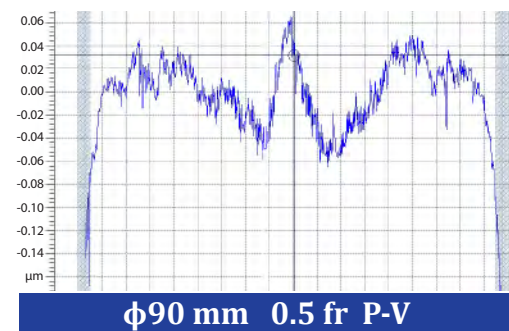
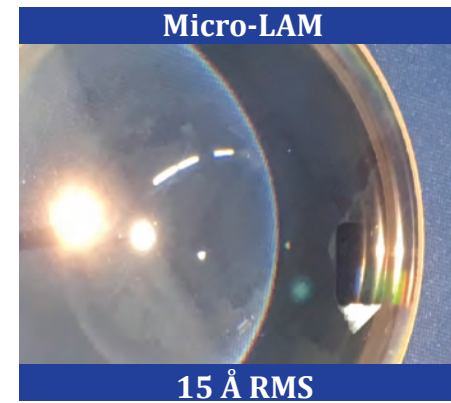
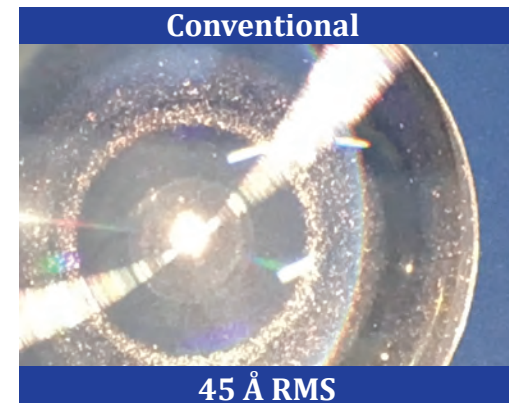


## Silicon



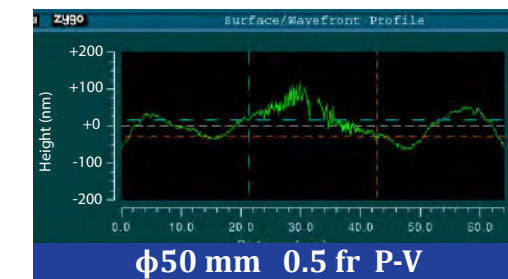
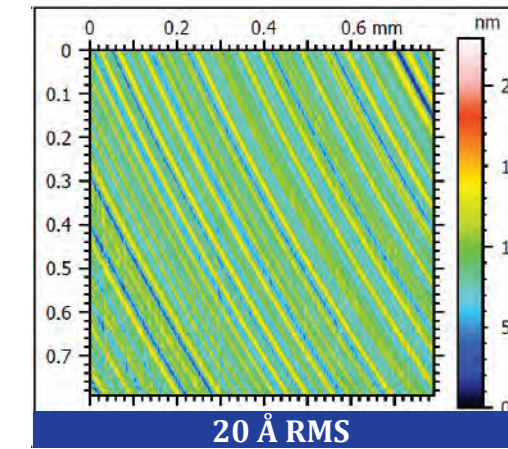
- Faster part machining (2-5x)
- Improved surface finish (2-4x)
- Extended tool life (3-7x)
- Improved form accuracy with correction
- No spoking or surface damage
- Less rainbow effect
- Part diameter: 12-375 mm

## Zinc Sulfide



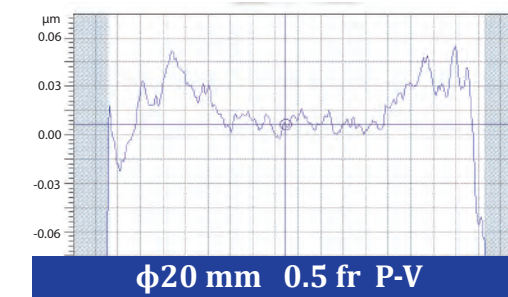
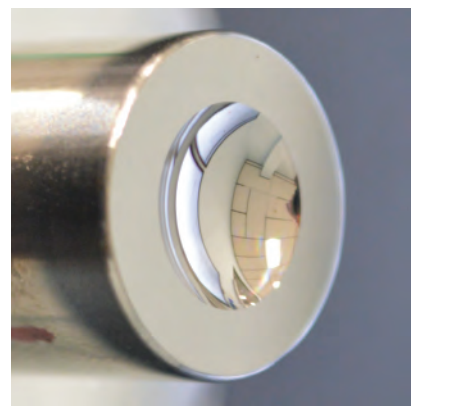
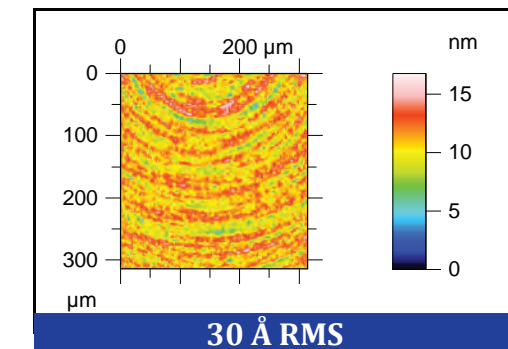
- Faster part machining (2-5x)
- Improved surface finish (2-4x)
- Extended tool life (2-4x)
- Improved form accuracy with correction
- No haze or pitting

## Calcium Fluoride



- Faster part machining (3-5x)
- Improved surface finish (2-4x)
- Extended tool life (6-8x)
- Improved form accuracy with correction
- No visible pitting or spoking
- Allows use of low grade material

## Tungsten Carbide



- Optical glass press mold tooling
- Injection mold tooling
- 10x faster than grinding
- Improved accuracy & surface quality
- Tool path correction capable

## Materials Testing in Progress

Silicon Carbide  
Stainless Steel  
Germanium  
E-Nickel

Barium Fluoride  
Aluminum  
Sapphire  
Beryllium

Copper  
Glass  
Spinel