CASE STUDY

GE Power

GE Power – South Carolina, USA

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PRODUCT

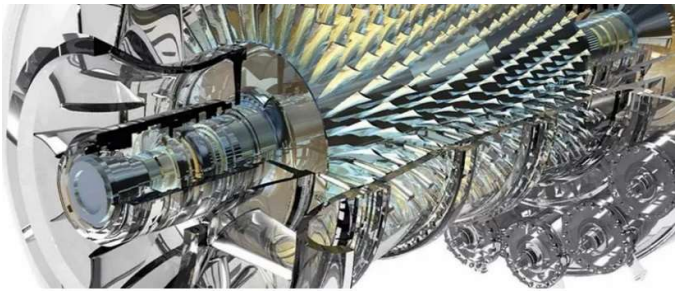
Industrial Gas Turbines

Blades and vanes with Thermal Barrier Coatings

Enables operating temperature ranges beyond the melting point of metal alloys

Eliminates process steps

LMJ used for:
- Drilling and Shaping of Cooling Holes
- Single Step After Coating

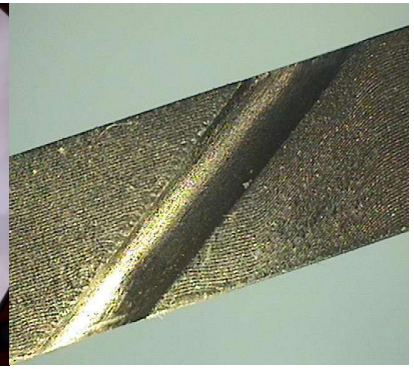


CHALLENGE

High speed drilling of shaped holes / Single step process

Main processing criteria:
- No thermal stress
- Minimal recast
- Tight Tolerances
- High-quality surface finish
- Speed
- Backstrike Protection

Machining technologies able to reach these criteria:
- EDM
- Conventional Lasers
- Laser MicroJet (LMJ) - water jet guided laser technology



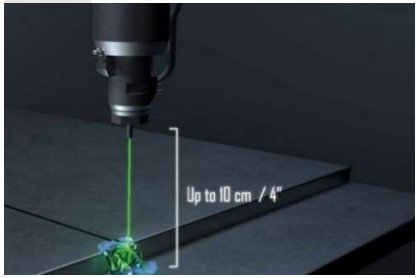
SOLUTION

No HAZ, production-proven, better ROI

LMJ advantages versus EDM:
- Enables Post-Coating Drilling
- Single Process Step
- Higher Speed
- Higher Quality

Installed machine type:
- MCS 500
- 200 W green laser

MCS 150



Sources: Synova