

A £1M Strategic Research Investment Fund investment.
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Unique Laser Micro- & Nano- Machining Laboratory

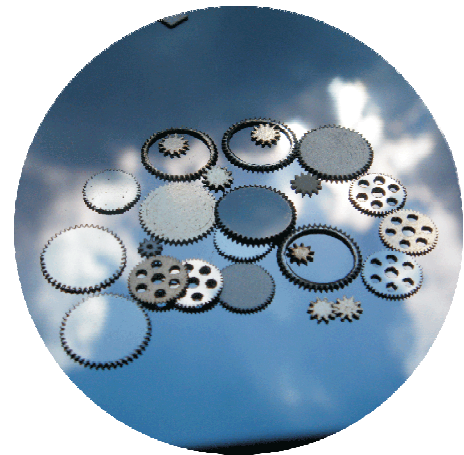
Dual Laser on a single platform

- 1) 157nm Deep Ultraviolet Fluorine [F2] Laser
- 2) 795nm Ultrafast (100fs) Ti:Sapphire [Ti:Sa] Laser

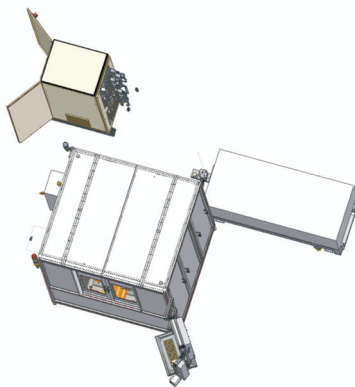
Positional accuracy 50nm (X,Y) 500nm (Z)

Ability to machine **any** material

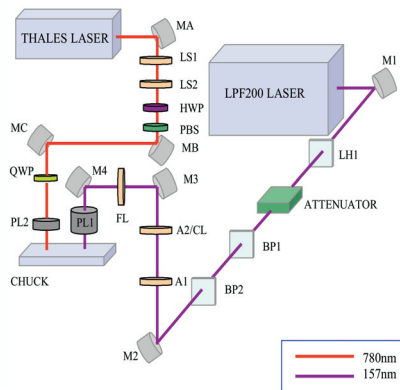
Use both lasers on in-situ workpiece



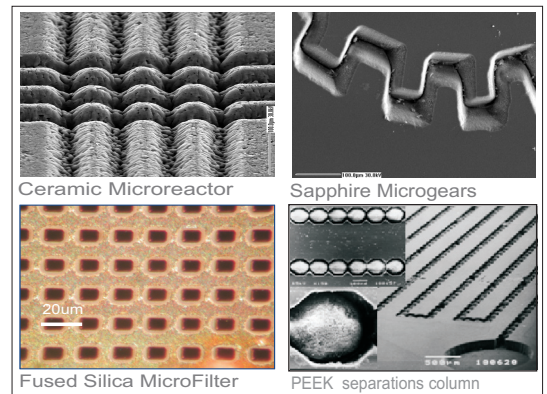
Microgears in diverse materials



Dual laser configuration



Dual optics beamline



Sample machined materials & devices

F2 Laser specifications & capability

157nm 1.5W

Optics beamline <10ppm O2

Spot size >250nm <150um

Material preferences:-

- Fused silica
- Fluorinated polymers
- Glass
- PEEK

Applications

- Microfluidics; Lab-on-a-Chip; Photonics
- Prototyping; Reusable devices; Mastering

Ti:Sa Laser specifications & capability

795nm 1.5W

Pulse Energy: 1mJ

Rep Rate: 5kHz

Spot size: 2um

Material preferences:-

- metals, glass, ceramics, polymers
- semiconductors
- biomaterials, elastomers

Applications

- roughness reduced by immersive machining
- suitable for heat-sensitive materials