



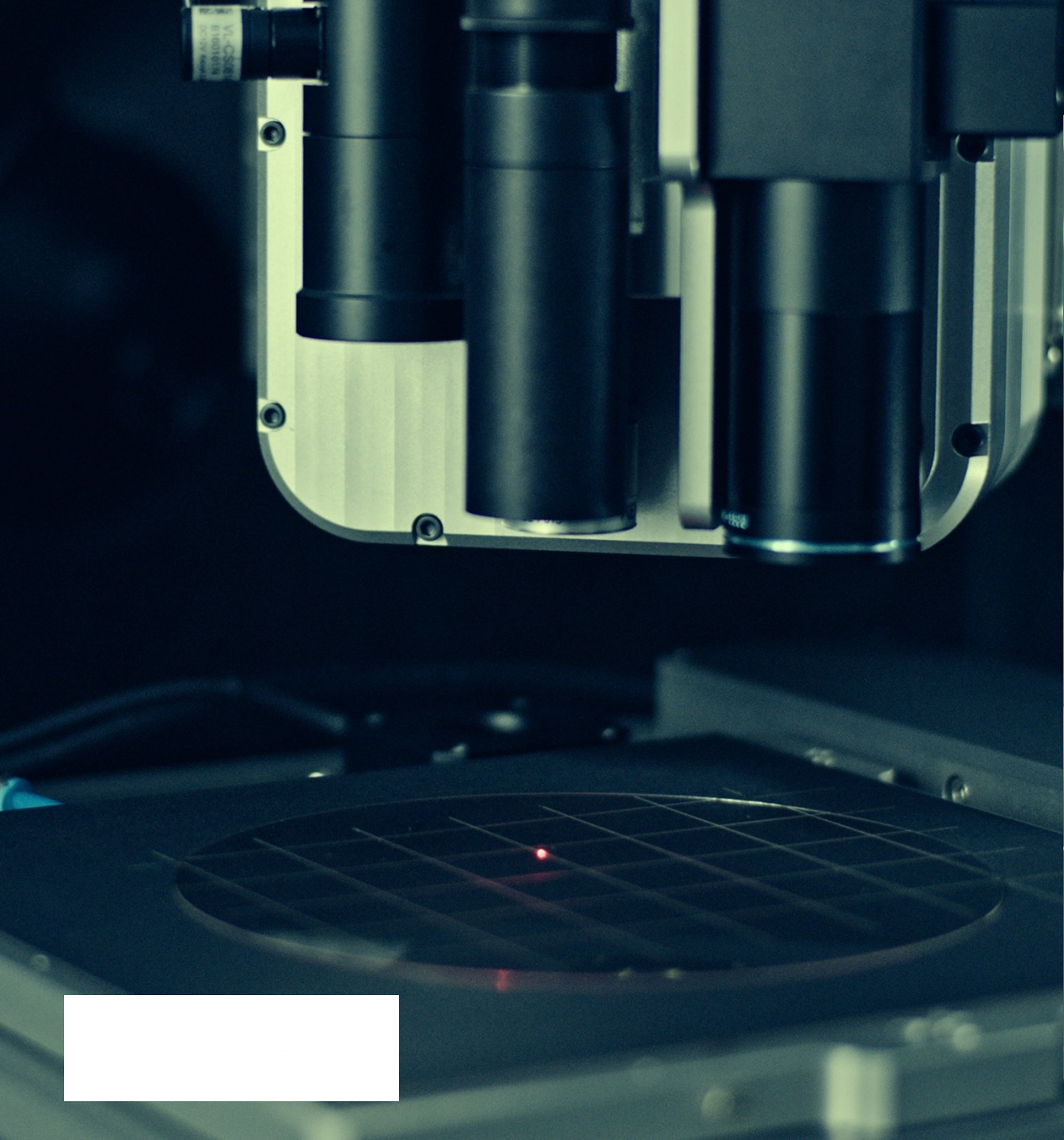
a new **GLASS & SAPPHIRE**
LASER DICING solution





a new **GLASS & SAPPHIRE**
LASER DICING solution





Features



Patented glass & sapphire dicing technology



From ultra-thin glass to 10 mm



High process speed up to 800 mm/s



All shapes: circular, square, irregular



Inner and outer contours

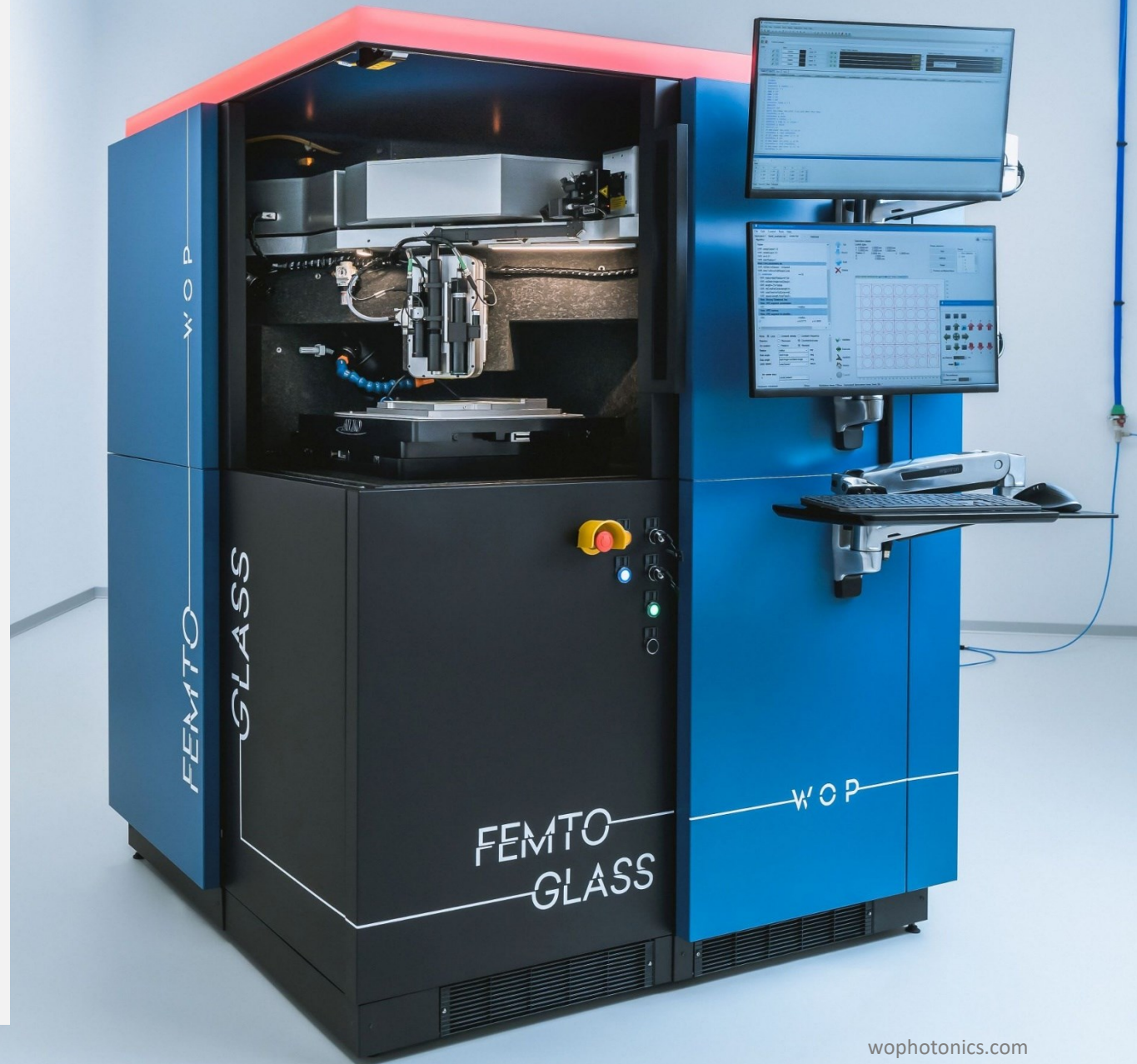


Tunable dicing process for different substrate thickness

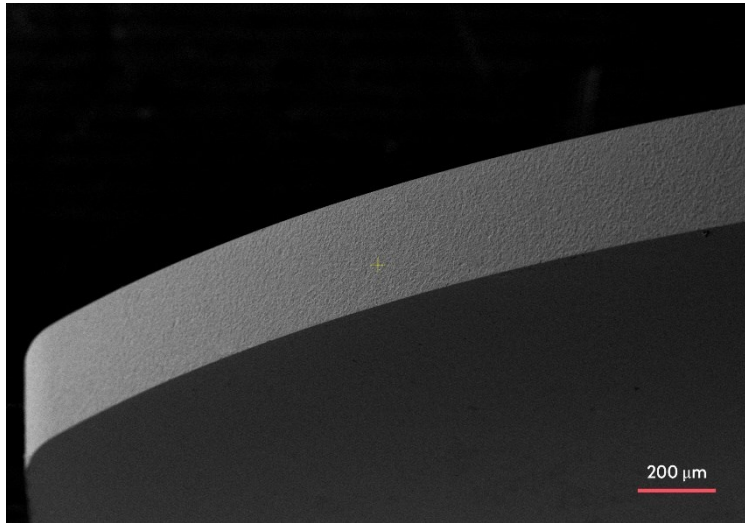


Features

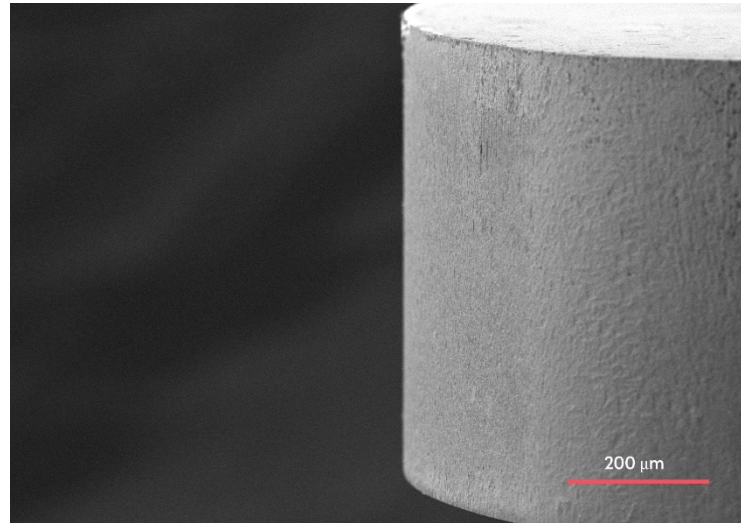
- Integrated beam stabilization
- Automated sample recognition
- Particle extraction unit
- Integrated optical microscope
- Corner door for automation design
- 200 mm x 200 mm, 300 mm x 300 mm sample size
- Thermal separation
- SCA software



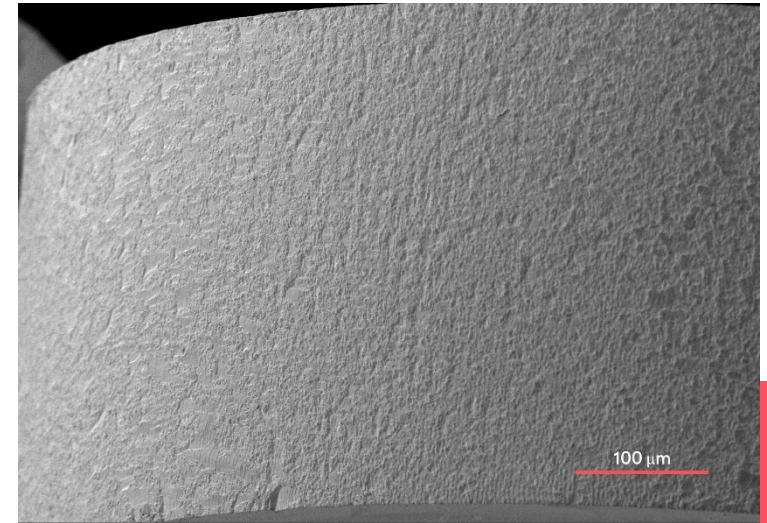
Perfect cuts



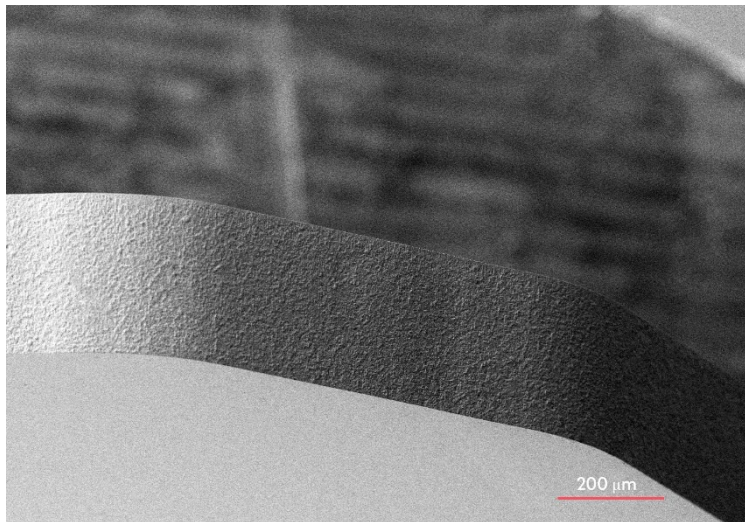
D236T glass, thickness 300 μm



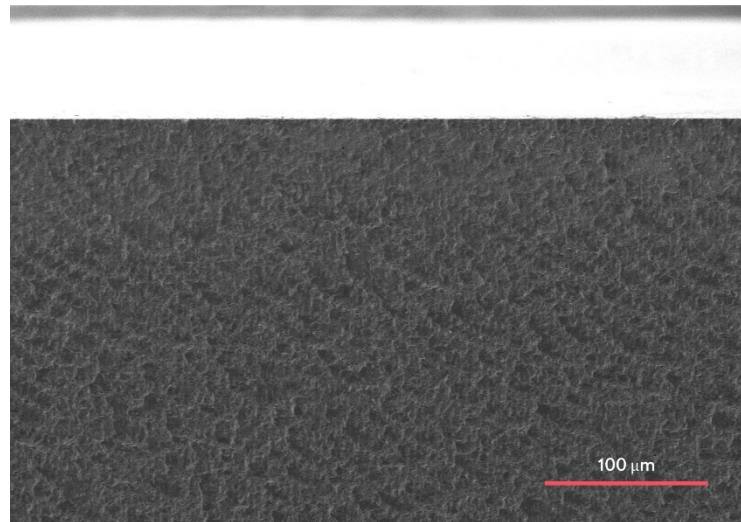
Sapphire, thickness 700 μm



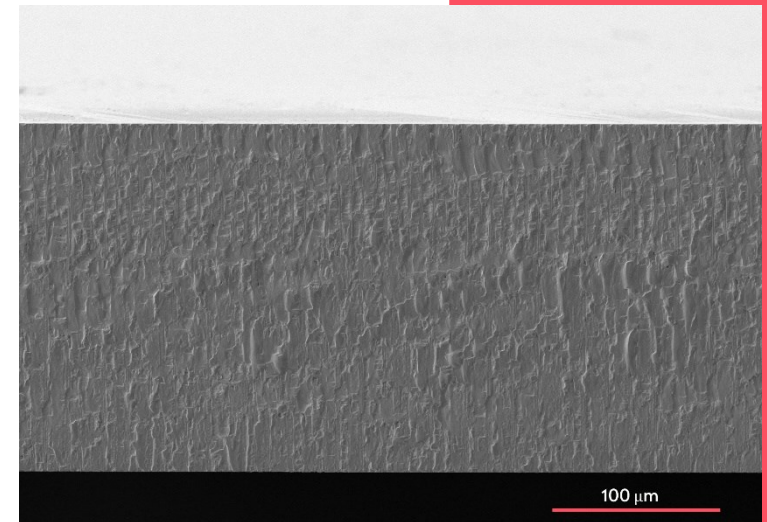
Sapphire, thickness 400 μm



D236T glass, thickness 300 μm



Sapphire, thickness 700 μm



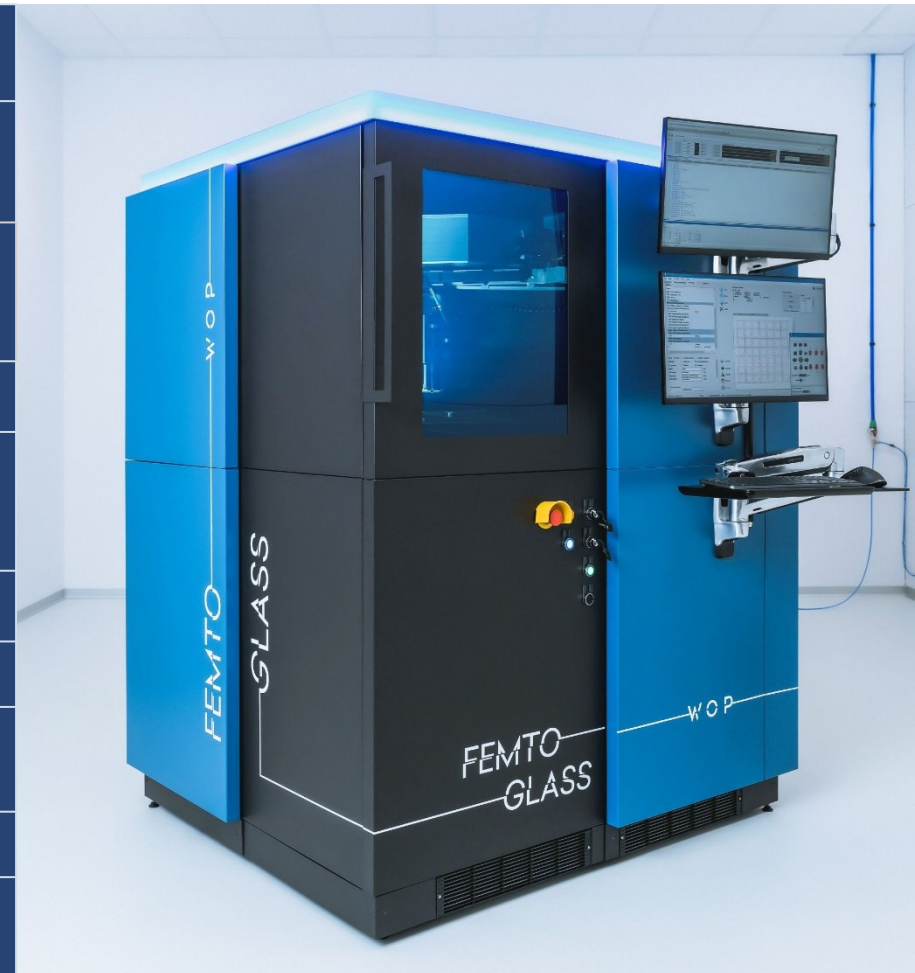
Fused silica glass, thickness 250 μm

FemtoGLASS outperforms

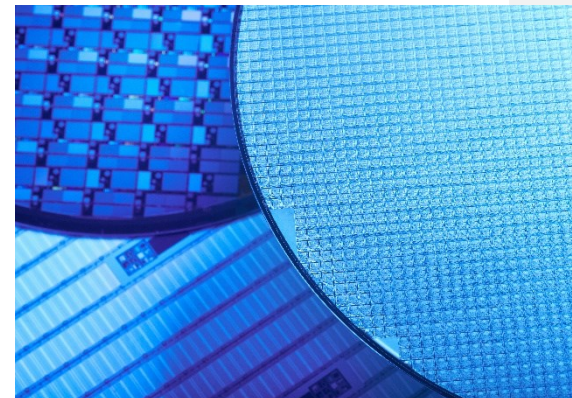
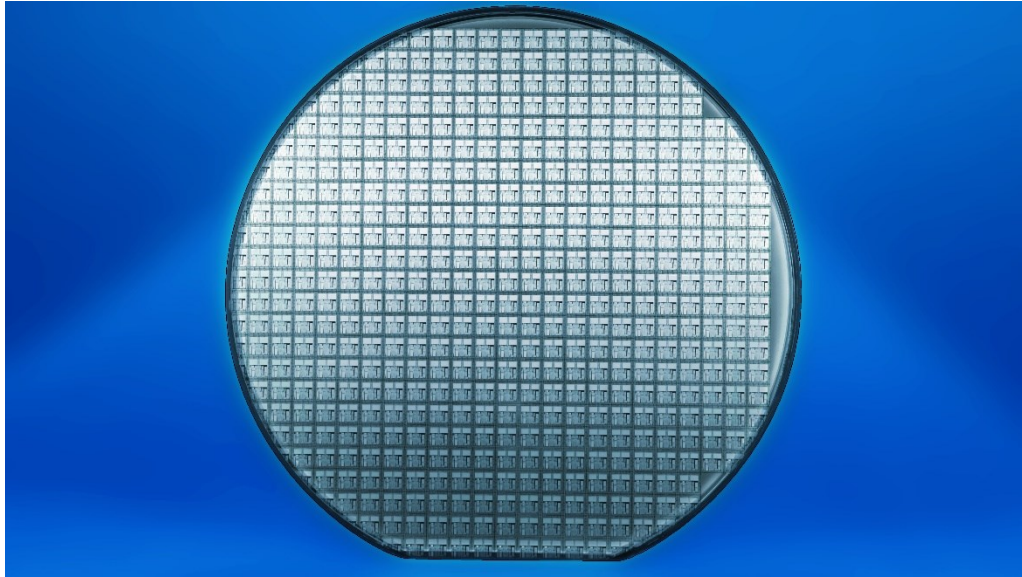
other glass dicing methods



	Blade	Stealth laser	Laser ablation	WOP FemtoGLASS
Glass thickness	2 – 19 mm	200 μ m – 10 mm	30 μ m – 2 mm	30 μ m – 10 (up to 2 mm in a single pass)
Glass type	All types	Non-tempered Sapphire	All types	Tempered Non-tempered Sapphire
Cutting speed	up to 100 mm/s	Up to 300 mm/s	Up to 10 mm/s	Up to 800 mm/s
Possible shapes	Straight cuts only	T-shapes and circular shapes are possible	Any shape	Any shape possible
Surface chipping	< 200 μ m	< 50 μ m	< 50 μ m	< 10 μ m
Street requirement	> 50 μ m	< 15 μ m	> 50 μ m	< 1 μ m
Water (cooling/cleaning)	yes	no	yes	no
Debris	yes	no	yes	no
Thermal effect on the device	yes	no	yes	no



Applications



- Wafer level glass product dicing
- Augmented reality, smart glasses screens
- Mobile phone screens, camera lenses
- Micro optics elements
- Thin glass
- Electronic components
- Display technologies



We deliver solutions for your μ tasks



19+ years of expertise
in femtosecond laser micromachining with
a high focus on glass



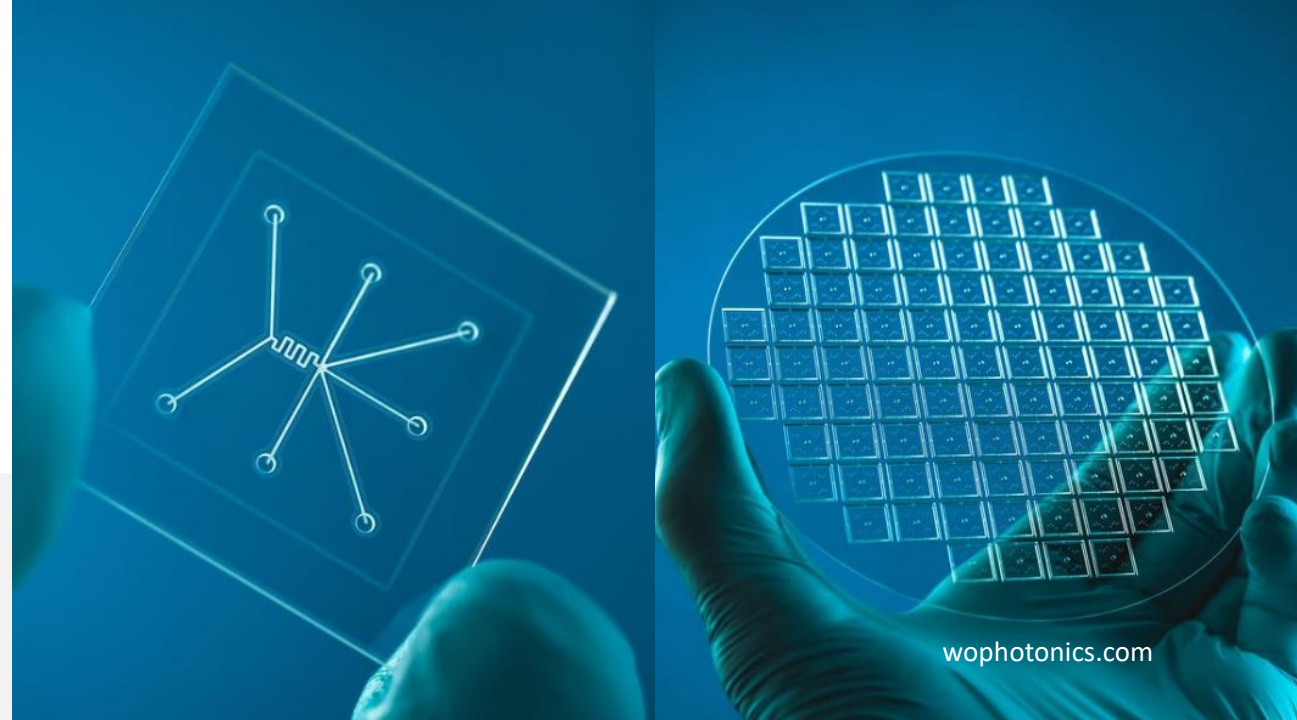
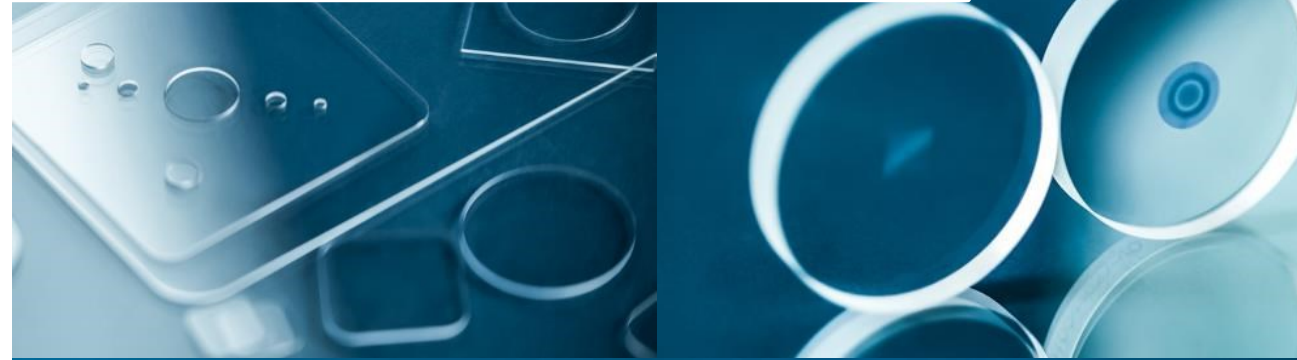
6 in-house and 2 licensed patents
enabling cutting-edge technologies



60+ professionals
7 Ph.D., 50 M.S. and B.S.



R&D studies
continuous projects with academic
and research partners



Members of



ISO certified



Full-Service Solutions

for industry & science



HAVE A MICRON CHALLENGE?



PROTOTYPING

The image shows several microchip prototypes on a blue background. Each chip has a central rectangular area with a grid of small squares, and several thin lines extending from the corners, representing electrical connections. The WOP logo is visible on each chip.


Rapid prototyping services to test your idea in an actual environment.



PRODUCTION SERVICES

The image shows a close-up of a precision manufacturing process, likely laser cutting or drilling, on a material with a fine, grid-like pattern. The background is a soft, blue gradient.

Ultra-high precision services on all materials.



LASER SYSTEM DEVELOPMENT

The image shows a large, blue and black laser system in a laboratory setting. The system has a control panel with a monitor and a keyboard. The WOP logo is visible on the side of the machine. The text 'FEMTO CLASS' is also visible on the front panel.

Tailor-made laser systems designed for your specific application.

All materials: glass, sapphire, ceramics, silicon, metal, plastic, optical fibers.



Thank you!

Let's talk!

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