

# IRIDIA

## Ultimate Elemental Imaging Laser Ablation System

- Cobalt cell for single millisecond analytical performance
- High resolution energy attenuation
- 500 Million shot laser optics
- 5× Mirror lifetime with multi-use optics
- Geo-imaging option with dual polarizers
- Significantly extended gas lifetime

### Image Data at the Speed of Light

The new Iridia is a purpose-built laser ablation system designed for high-speed imaging applications that can take your overnight projects and complete them in minutes. Iridia produces high stability laser energy at higher speeds to make full use of the latest ICP-MS technology. The Cobalt sample cell offers single millisecond analytical performance.

Iridia features a 500 Hz continuous duty cycle laser (1kHz Option), custom-designed for Teledyne Photon Machines to give ultimate reliability and performance, backed by a two year warranty and a 2 billion shot guarantee.

The integrated, fully enclosed and actively vented gas cabinet holds all the necessary excimer premix and helium gas bottles. Significantly improved static and dynamic gas lifetime, typically 10 x current industry standard.

### Key Features

- Custom 193nm 500Hz ultra-short pulse, compact, water-cooled Excimer laser
- 2 billion shots guaranteed, 4 billion shots typical
- Energy density < 0.05 J/cm<sup>2</sup> – 15 J/cm<sup>2</sup> using dual attenuators
- Intuitive Chromium 3.0 software
- Class I (eye safe) during operation and maintenance
- Fully sealed optical path with pressurized purge and multi-position mirrors for 5× lifetime
- Software controlled motorized dual cross-polarizers for both transmitted and coax lighting
- Stage Priority laser triggering ensures the position of every laser shot is accurately logged
- Software controlled LED lighting for reflected, transmitted, and oblique illumination
- Spot sizes from 1 µm – 210 µm
- Integrated gas cabinet to minimize footprint
- Single shot, burst, continuous & fixed dosage modes

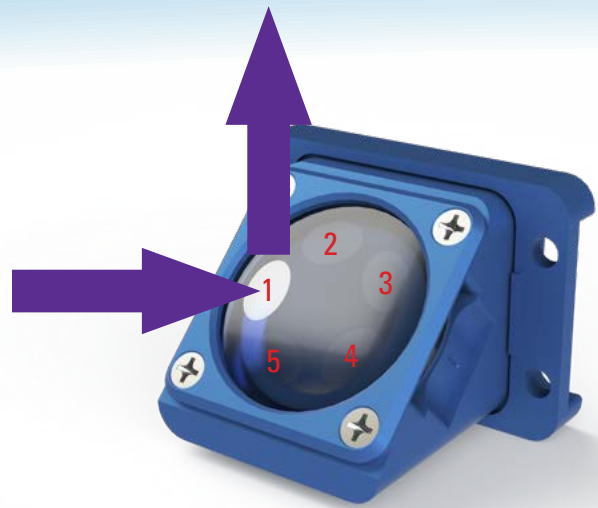


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**PHOTON MACHINES**  
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## Optimized Beam Path

- 'Multi use' optics giving 5× lifetime for high fluence mirrors
- Full CLASS I (Eye Safe) operation, alignment and maintenance
- Pressurised purge (MFC controlled with interlocks)

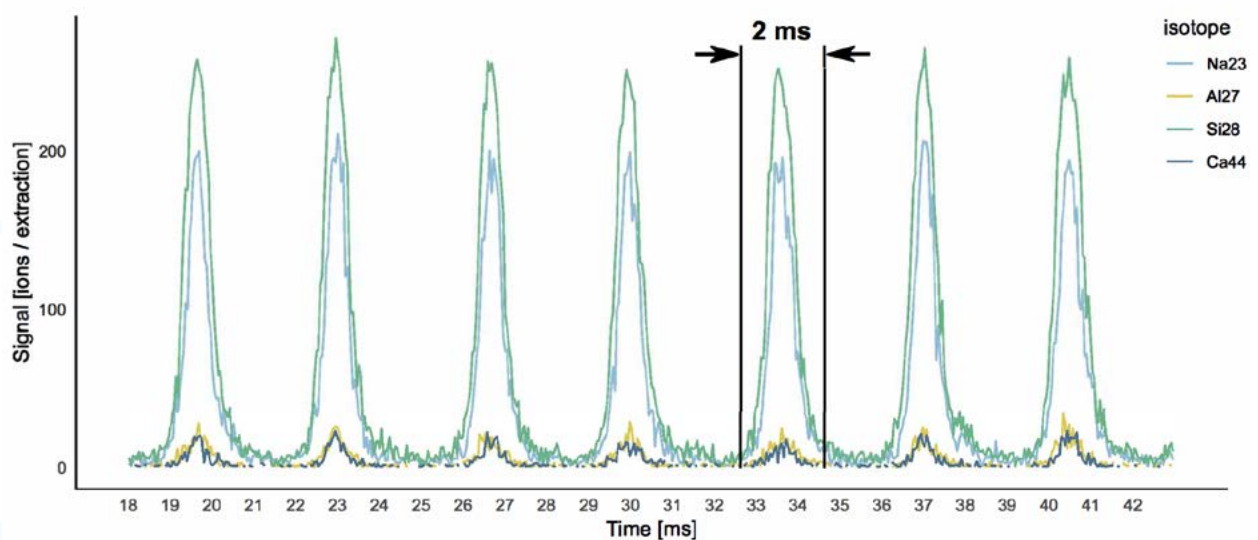


## Cobalt Sample Cell

- Scientifically proven analytical performance
- Patent pending 'tube cell' design
- Patent pending dynamic Z
- High speed, sub- $\mu\text{m}$  precision stages
- Reversible gas flows
- Single-handed operable door with half twist for full seal



## Ultrafast Signals



- < 3 ms FW0.01M on glass / zircon
- < 4 ms FW0.01M on biological material

(1-2 ms FW0.1M)

(2-3 ms FW0.1M)



## Reimagined Sample Holder

- Highest sample load to weight ratio
- Highly space-efficient
- Extremely customizable
- Three-point anchoring for improved reproducibility
- Higher transmitted light coverage for slides



## Chromium 3.0

- auto-sampling functionality
- Bidirectional ICP-MS triggering
- Import sample image files and arrange layers for easy targeting
- Status Monitoring inhibits laser firing if ICP is extinguished
- Future software upgrades at no charge
- HDIP data imaging software available



# Powerful Simplicity

Teledyne Photon Machines, a brand of Teledyne CETAC Technologies, provides laser ablation systems ranging from CO<sub>2</sub> and diode lasers, through 213 nm solid state Nd:YAG, 193 excimer laser systems and femtosecond laser systems. In addition to this, the company provides multiple accessories to enhance the capabilities of laser ablation systems.



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