

## **Imagine Optic and Amplitude Technologies file patent application for high-power laser optical fuse**

*Imagine Optic and Amplitude Technologies have jointly filed a patent application for a unique optical fuse that will increase safety, lower costs and reduce downtime at high-power laser facilities.*

San Jose, CA and Orsay, France January 21, 2008 – Imagine Optic, Europe's leading provider of wavefront analysis and adaptive optics technologies, and Amplitude Technologies, a manufacturer of advanced femtosecond laser technologies, are proud to announce that they have jointly filed a patent application for a totally new concept in optical fuse design and fabrication that will contribute to advancing the growing applications of high-power lasers. The optical fuse combines adaptive optics, dielectric technology and a unique physical design that enables it to protect fragile and costly elements throughout the laser amplification chain. One of the key merits of this new technology is its use of inexpensive replacement parts as the disposable fuse element that enables users to benefit from a rapid return on investment (ROI).

High-power lasers rely on expensive rods, pumps, stretchers and compressors to augment and focus the energy to levels that exceed the emissions of current state-of-the-art lasers by several orders of magnitude by firing extremely rapid and focused pulses. These lasers are at the heart of research with applications ranging from proton-based cancer therapies and nuclear waste treatment to pure research that will help unlock the mysteries of matter itself.

When asked about the practical implications of the optical fuse, Gilles Riboulet, CEO of Amplitude Technologies, said "Every time a component is damaged to the unintentional misdirection or build-up of energy inside the amplification chain, facilities incur significant costs related to procuring replacement components. Manufacturing these elements can take up to 6 months, putting the entire facility at a standstill during that time." He continues by adding "This new optical fuse provides a safeguard that will help prevent these costly accidents by inhibiting damaging energy from passing on to the next step in the beam amplification chain." Current and future high-power laser installations around the world including ELI, Omega EP at the LLE, HiPER, Hercules Facility at the University of Nevada, the Nevada Terawatt Facility, PETAL, and the NSL are ideal candidates for this new technology.

Imagine Optic will continue its steady course of innovation in 2008 with the introduction of new additions to its wavefront analysis and adaptive optics product line including a new, wide-diameter deformable mirror specially designed for high-power lasers. This next generation deformable mirror will pave the way for far-reaching advances in high-power laser beam amplification and correction. To that end, the company is currently pursuing partnerships with leading industrials and researchers to accelerate this new product's time to market.

The company will be exhibiting this week on stand 715 at Photonics West in San Jose, the world's premier showcase for optics and photonics products. For more information, please visit [www.imagine-optic.com](http://www.imagine-optic.com).

### About Imagine Optic

Founded in Orsay, France in 1996, the company is Europe's leading provider of Shack-Hartmann wavefront sensing technologies for adaptive optics, quality control and optical measurement. In 2005, Imagine Optic introduced the world's first X-EUV wavefront sensor to respond to customer needs in this synchrotron metrology and nanolithography and, in 2007, the company released a completely renewed version of its award winning HASO™ sensor line as well as adaptive optics and companion software packages. It continues to be a leader in research and development with projects currently underway in the domains of adaptive optics for high-power lasers and bioimaging as well as free space communications.

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Imagine Optics' clients are among the world's top companies and include Sony, Nikon, the Massachusetts Institute of Technology, MIT, Thomson, Zeiss, NASA, the U.S. Air Force, Essilor, Thales Aliena Space, the Howard Hughes Medical Institute, EADS, the European Southern Observatory, the University of California at San Francisco (UCSF), the European Space Agency (ESA), amongst others. In 2006, Imagine Optic realized a turnover of €2,4M and currently employs 23 highly qualified professionals in a variety of domains. If you would like to learn more about us, please visit [www.imagine-optic.com](http://www.imagine-optic.com).

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