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Newsletter July 2010

The Power of Platforms for Life Science Applications

Cher client,

Our lasers enable advances in life sciences for research, clinical and medical applications such as flow cytometry, cell sorting, microscopy, DNA sequencing and retinal scanning. Virtually all these key applications rely on fluorescence excitation. Recent trends are to increase throughput and benefit from the use of new fluorescent dyes or proteins. In terms of laser technology, this manifests as a push towards higher powers and increased wavelength choices. Examples are Super-Resolution Microscopy breaking the spatial resolution barriers of the diffraction limit using higher power lasers than used in legacy confocal microscopy tools. In DNA sequencing third generation tools use higher power blue (488 nm), green (532 nm) and red (630 nm) lasers up to the Watt level. Our Life Sciences strategy is set to support these trends with platforms: Once designed in adding new wavelengths or power levels is fast and cost efficient.

Optically Pumped Semiconductor Lasers (OPSL) is a core technology rapidly expanding in a variety of markets. This includes the next generation of Coherent's Verdi G platform for scientific pumping applications as well as medical or forensic applications. In addition to the inherent reliability of an OPSL as an all semiconductor technology they set the performance benchmarks with extremely low noise and power flexibility because of the semiconductor gain medium.

Learn more about the benefits and applications in the new [OPSL brochure](#).

Our proprietary OPSL is the technology behind the Sapphire and Genesis platforms. Sapphire was the world's first commercial all-solid-state laser at the legacy wavelength of 488 nm replacing argon lasers. With its inherent scalability in wavelength and power OPSL is becoming a dominant laser type throughout life sciences with more than 20,000 installed lasers.

Driven by market demand new **Sapphire** product releases added in 2009 introduced 561 and 568 nm.

In 2010 new additions expand to 458, 514 and 532 nm and add power levels up to 200 mW.

All wavelengths and power levels are offered in the same Sapphire package platform. Customers that once integrated Sapphire can respond to new application needs with new wavelengths and power levels added with virtually no effort for integration.

Lower cost and faster time to market. Available both for OEM or enduser applications.



The second OPSL platform is **Genesis** as the higher power platform and also the basis for UV lasers based on OPSL.

The MX platform covers the power range up to 1 W at 532 nm.

In the CX platform up to 7 W at 532 nm are available as well as 355 nm UV lasers recently expanded to a maximum power of 250 mW.

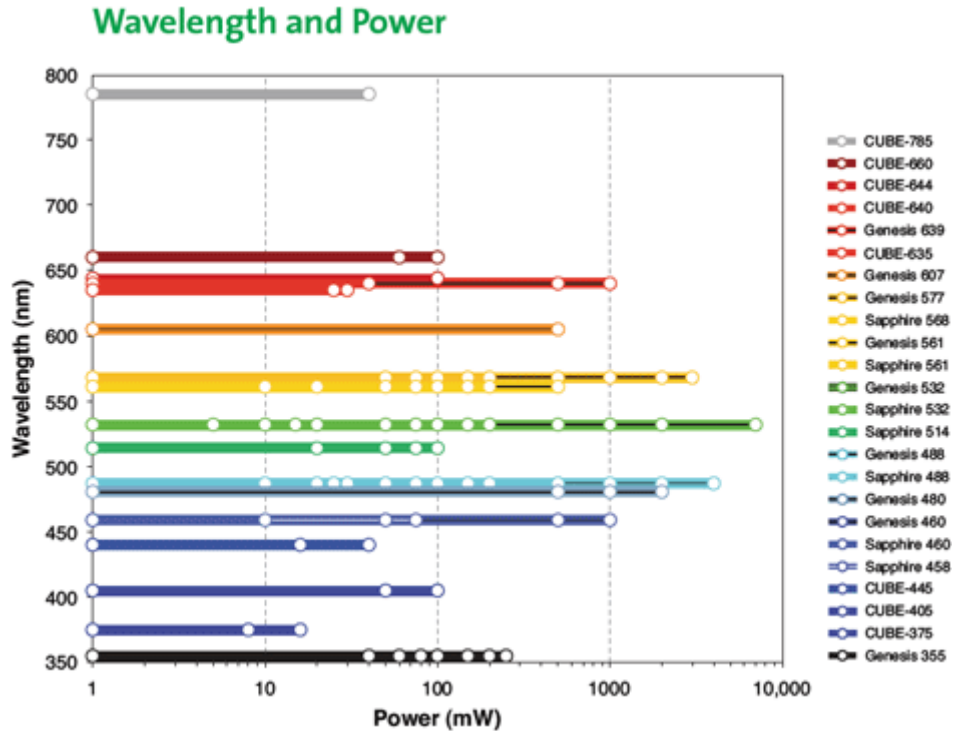
The OPSL family is rapidly expanding with new wavelengths and power levels. Please ask for your application needs in wavelength and power.



The third key platform in Life Sciences is our **Cube** diode laser. The Cube is a full feature system including high speed direct modulation and USB interface. Recently expanded to feature the first fiber pigtailed Life Sciences laser system from Coherent using our proprietary fiber technology. A technology and knowhow inherited from a telecom company acquisition enables solutions meeting the demand for industrial grade reliability of fiber delivered lasers not only for OEM customers.



Please see our new [Life Sciences catalogue](#) for a complete overview of laser solutions also including Chameleon Ultrafast lasers for MPE Microscopy.



About Coherent, Inc.

Founded in 1966, Coherent, Inc. is a world leader in providing laser-based solutions to the commercial and scientific research markets.

To find out more about Coherent, visit our website at www.coherent.fr or call 01 69 85 51 45.

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Coherent France, Domaine Technologique de Saclay, 4 rue René Razel, 91892 Orsay cedex
Tel : 01 69 85 51 45 – Fax : 01 69 85 51 46

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