

## ***eagleyard demonstrates 20mW green laser for mobile projection applications***

**Berlin/Germany, 17<sup>th</sup> March 2008: *eagleyard Photonics*, a leading supplier of high-power laser diodes, will present a directly modulated green laser source at the Laser Optics Berlin this week. With an optical output power in excess of 20mW this source is best suited for mobile projection applications.**

The world-class result was achieved in close cooperation with companies and institutes all based in Berlin. The *Ferdinand-Braun-Institut für Höchstfrequenztechnik (FBH)* developed the special semiconductor laser chip, the *Fraunhofer Institut für Zuverlässigkeit und Mikrointegration (IZM)* was responsible for the assembly of the demonstrator module and *Luceo Technologies GmbH* developed a dedicated laser driver to supply modulated high currents to the laser diode. The project was initiated by *eagleyard Photonics GmbH*, a company experienced in turning technology into mature products, who had noted the demand by its world-wide customer base for exactly this type of laser source. The green laser is one key component for projection displays in mobile phones, PDAs and game consoles.

According to Michael Kneier, VP Sales and Marketing at *eagleyard*, “While blue and red lasers are commercially available for laser-based mobile projection engines, a green source still has some way to go. As a result of our close cooperation with the partners, we can now demonstrate world-class prototypes that bring us close to a viable product.”

The design is based on a gallium arsenide laser diode, emitting non-visible infrared laser radiation, and a frequency doubling crystal that converts the infrared light directly into visible green. Besides the laser chip and the doubling crystal, no additional optical elements are required, and thus constituting a concept which lends itself easily to miniaturization and cost effective production in the future.

The key element of the optical engine is the semiconductor chip with its high output power, developed by *FBH*. The special design allows for direct modulation at video rates, a stable wavelength to match the doubling crystal and high output power for efficient projection brightness.

Professor Tränkle, Director of *FBH* explained, “One specialist focus of our activities at the *FBH* is the development of reliable, high-brightness, high power diode lasers satisfying specific performance criteria. Once again, with the development of this laser module for mobile consumer applications, we have been able to demonstrate our capabilities to the full – the results speak for themselves”.

The *Fraunhofer IZM* developed and assembled the demonstrator in order to create a usable testbed for the green laser module. On the basis of thermo-mechanical simulations, the packaging concept was designed to maintain sub-micron accuracy during both assembly and operation.

*Luceo Technologies*, a specialist in the development and production of high frequency optical test systems, developed and delivered the high power laser driver, capable of data rates up to 450MBit/s and modulated currents up to 1.5A.



*eagleyard* was thus able to successfully characterize and optimize the laser source and prove its capability for laser projection applications.

*eagleyard* will be exhibiting their demonstrator at the Laser Optics Berlin event from 17<sup>th</sup> to 19<sup>th</sup> March (Hall 18, Stand 212); FBH can be found in Hall 18, Stand 308.



We focus on power.



Ferdinand-Braun-Institut  
für Höchstfrequenztechnik



### About the companies:

**eagleyard Photonics** headquartered in Berlin, Germany, has spun-off in 2002 from the *Ferdinand-Braun-Institut (FBH)*. Its core competence is the development, production and sales of innovative high power laser diodes based on GaAs (Gallium Arsenide). Its portfolio contains DFB, DBR as well as tapered lasers ranging from 650nm to 1180nm. These laser diodes address a variety of applications such as display technology, medical instrumentation, test & measurement and material analysis. The strong demand for *eagleyard's* products is continuously contributing to a sustained company growth. *eagleyard* is represented in all relevant markets around the globe, in particular in Europe, Japan and the USA. For more information, please visit our website at [www.eagleyard.com](http://www.eagleyard.com).

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### **Luceo Technologies GmbH**

Founded in 2005, Luceo is a specialized manufacturer of test equipment for optoelectrical components like lasers and transceivers and for other devices utilizing optical methods, such as strain sensor readers. The core competencies cover optical transmission, circuit, embedded and system design. The devices are high quality products completely Made in Germany and offer the customers solutions at an affordable price.

Main product is the X-BERT, a 10G Bit Error Rate Tester platform ideal suited for production lines and field applications. Luceo offers as well a driver device supplying high currents at a high datarates to high power laser diodes.

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