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März 2009

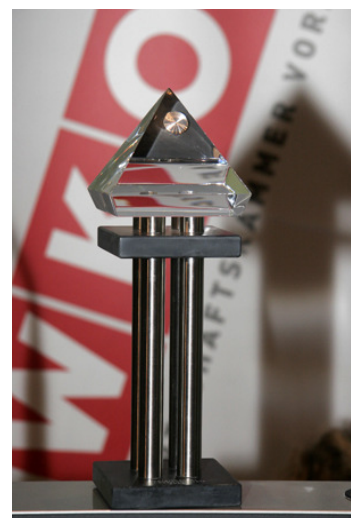
### High Q Laser wins the Innovation award 2008 for their "femtoREGEN™ UC-INDUSTRIAL"

The State of Vorarlberg and the Economic Chamber award this price biennially to outstanding product innovations and R&D achievements. High Q Laser wins the INNOVATION AWARD 2008 for the new ultra compact femtosecond amplifier, the "femtoREGEN UC-INDUSTRIAL". With its performance, compactness and reliability the laser is considered as a world novelty.

"The main target of the development was the laser stability" says Karl Dobler, CEO of High Q Laser Innovation GmbH.

New Design concepts, tolerance calculations and an optimised optics configuration lead to the development of an outstanding laser source. The design goals were a maintenance interval of 12 months and a life time of 5 years. The power of the all-in-one amplifier is 8 W at a repetition rate of 500 kHz and a pulse duration of 350 fs. It is the ideal laser source to be integrated as OEM product due to its compact size with a footprint of just 78 cm x 34 cm, the all-in-one controller and the ability for full remote control and signal read out.

Hohenems / Bregenz, Österreich. Juli, 2008



**Image left:** from left to right: Manfred Rein (Member of the Government), Dr. Max Lederer (R&D Manager, High-Q), DI Mag Karl Dobler (CEO, High-Q), Kuno Riedmann (President of the Economic Chamber of Vorarlberg)

**Image right:** Innovation award

The **femtoREGEN™ UC-INDUSTRIAL** regenerative amplifier integrates all pump laser diode modules, the seed oscillator and the amplifier into a single all-in-one ultra-compact housing. With a footprint of just 78 cm x 34 cm it is the most compact all-in-one ultrafast amplifier in the market. The seed oscillator is designed as a High Q Laser ultra compact (UC) module itself for high stability and compactness. The UC seed oscillator is operating with "derated" nominal pump current for longest MTBF and is based on High Q Laser's patented resonator folding technique withstanding a 50 g shock test for most robust performance. The semiconductor saturable absorber mirror (SESAM) assures passive and self-starting mode locking for high temporal stability.

The **femtoREGEN™ UC-INDUSTRIAL** comprises the resonator of the regenerative amplifier and the Pockels cell in one monolithic module, the proven High Q Laser IC (Industrial Compatible) module. The Pockels cell and its electric driver modules can both be independently replaced for an easy service in the field. The femtosecond laser pulses can be triggered via TTL signals from single pulses to the maximum repetition rate of 500 kHz providing constant energy from the first pulse on (no first pulse excess energy).

The **femtoREGEN™ UC-INDUSTRIAL** has a single 19" „all-in-one" control unit (240VAC or 110VAC) hosting all supply and control functions for easy and true "turn-key" operation and facilitates system integration for OEM customers with a CAN bus and 24V power supply. The control unit also integrates the 19" liquid to air chiller.

The **femtoREGEN UC-INDUSTRIAL** is based on high-end Yb-doped laser materials for future power and repetition rate scaling. It utilizes High Q Laser's patent pending Intra-Cavity-Chirped-Pulse-Amplification (ICCPA) for ultra compact design.

The **femtoREGEN™ UC-INDUSTRIAL** is designed for a 12 months maintenance interval. Customers benefit from the ongoing OEM production in quality, performance and investment cost. The high modularity ensures high temporal and spatial stability as well as easy service and maintenance resulting in low operation cost and high MTBF. It presents high robustness and reliability and can be customized to an OEM integrators needs.

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For more information on **HIGH Q LASER** call +43 (5576) 43040 17 or e-mail [Sandra.Zoppel@highqlaser.at](mailto:Sandra.Zoppel@highqlaser.at)  
High Q Laser's headquarter is located at Kaiser-Franz-Josef-Str. 61, Hohenems / Bregenz, Austria.

For more than 9 years HIGH Q LASER has been a leading supplier of diode pumped pico- and femtosecond all-solid-state oscillators and amplifiers based on Direct Diode Pumping and Semiconductor Saturable Absorber Mode Locking.

For additional photo formats, b/w prints or electronic files of the attached image(s) please call Sandra Zoppel at HIGH Q LASER, Marketing Communications, phone +43 (5576) – 430 40- 17 or e-mail: [Sandra.Zoppel@highqlaser.at](mailto:Sandra.Zoppel@highqlaser.at)

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