



Contents of this issue

- ▶ [Introduction of the newly released Liekki Application Designer v3.0](#)
- ▶ [Introduction of our latest product line - Liekki Optical Engines \(fiber laser modules\)](#)
- ▶ [Liekki demonstrates very high efficiency ytterbium-doped large mode area polarization maintaining \(PM\) fibers](#)
- ▶ [The completion of the first phase of the Liekki factory upgrade](#)
- ▶ [Liekki's Direct Nanoparticle Deposition technology recognized by Frost & Sullivan's Technology Leadership Award](#)

Events calendar

- ▶ **Interopto**, Tokyo, July 13 - 15.
- ▶ **CIOE**, Shenzhen, September 6 - 9.
- ▶ **SPIE Europe Symposium Optics/Photonics in Security & Defence**, Congress Centre SEC@Bruges, Bruges, September 26 - 29.
Liekki's papers "Design considerations for large-mode-area polarization maintaining double clad fibers" and "Photodarkening in ytterbium-doped silica fibers" have been accepted for the conference.
Product Manager (Fibers) Mr. Mikko Söderlund will present the paper "Design considerations for large-mode-area polarization maintaining double clad fibers" (paper nr 5987-10) on September 26 in Session 2 at 13.00 - 17.00.
Senior Laboratory Engineer Mr. Joonas Koponen will present the paper "Photodarkening in ytterbium-doped silica fibers" (paper nr 5990A-4) on September 28 in Session 1 at 08.20 - 10.10.
- ▶ **ECOC'05**, Glasgow, September 26 - 28.
- ▶ **NanoSolutions2005: The Premier Nanotechnology Conference for European Industry, EXPO XXI Cologne**, Nov 8 - 10 - Liekki's CEO Dr. Per Stenius discusses nanotechnology and photonics as an invited guest speaker.
[View Events calendar](#)

Introduction

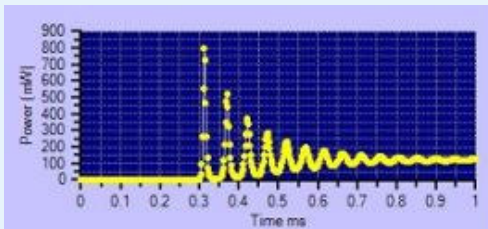
This is the second newsletter from the team at Liekki and we hope you enjoyed the first edition. We have accomplished a lot since the last newsletter published in May. The most significant news are:

- Liekki presented a postdeadline paper at CLEO/Europe-EQEC Conference 2005 in Munich entitled "Measuring photodarkening from Yb-doped fibers". [Request paper.](#)
- [The time has come for Liekki Application Designer \(LAD\) v3.0](#) - Offering even more simulation capability including transient analysis, pulsed applications and non-linear thresholds. [A downloadable demo version is now available on our website.](#)
- Introducing our latest product line - [Liekki Optical Engines](#)
- Liekki demonstrates very high efficiency ytterbium-doped large mode area [polarization maintaining \(PM\) fibers](#)
- The completion of the first phase of the [Liekki factory upgrade](#) has increased our flexibility and reduced our throughput times - better fibers, faster, with more advanced features
- Liekki's Direct Nanoparticle Deposition technology recognized by [Frost & Sullivan's Technology Leadership Award](#)

We would greatly appreciate your comments and feedback on the content to improve the future quality of the newsletter. We are looking forward to informing you about our latest developments again in September.

Have a relaxing and enjoyable summer!

Sincerely,
Bill Willson
Vice President, Marketing and Sales



Simulation reveals potentially dangerous initial transient at switch on a CW fiber laser

The time has come for Liekki Application Designer (LAD) v3.0 - Offering even more simulation capability including transient analysis, pulsed applications and non-linear thresholds

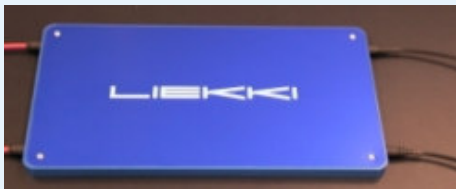
Boosted by the increased interest received by version 2.0, [Liekki has released](#) the next version of the versatile simulation software - Liekki Application Designer v3.0.

Version 3.0 includes unique simulation capabilities and enhanced features: transient analysis adds an extra dimension to the simulation environment. Based on proprietary algorithms that calculate the temporal evolution of optical beams inside and outside active fibers, Liekki Application Designer v3.0 is a powerful and easy-to-use tool for all scientists and engineers designing dynamic fiber amplifiers and lasers for both continuous wave and pulsed applications.

Calculation of Brillouin and Raman scattering thresholds, control over radial distribution of erbium and ytterbium dopant concentration across the fiber cross-section and inversion level display are new features that have been added to version 3.0 to improve the high power and large mode area fiber designs.

The new look and feel makes version 3.0 even more user-friendly and it gives the user more flexibility with clearer menus and floating toolbars. A demo version is now available to [download from our website](#). You may unlock the demo for a free 2 week full featured evaluation period. Please do not hesitate to [contact us](#), if you have any questions.

[Request more information](#) | [Back to top](#)



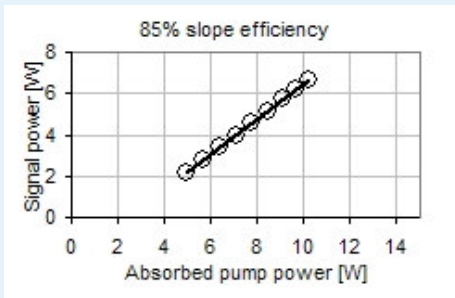
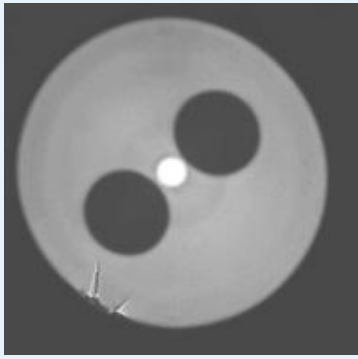
Introducing our latest product line - Liekki Optical Engines (fiber laser modules)

Liekki is providing value add to its customers by providing fully engineered and optimized subassemblies of our active and passive fibers with industry standard combiners and gratings; our ready-to-use fiber laser submodules or "Optical Engines". The Liekki Optical Engines allow you to accelerate your development by concentrating on the system level laser or amplifier design. We provide you access to the optimized signal inputs and outputs as well as the pump inputs. We take care of the fiber handling, splicing and packaging in a very robust and compact footprint. The packaging is also designed for efficient thermal management.

The [Liekki Optical Engine product line](#) consists of two broad families; fiber lasers and fiber amplifiers. Products are available for both continuous wave (CW) and pulsed applications. Output powers range from 10's of watts to 100's of watts. Models for our standard Optical Engines are also included in Liekki Application Designer v3.0.

We are also interested in learning about any custom requirements you might have. Please [contact Liekki](#) to learn more about a special introductory offer on our OE-50/6x15-Laser with 15 watts of CW output power at a wavelength between 1060 and 1080nm.

[Request more information](#) | [Back to top](#)



Liekki Yb DC-PM fiber shows excellent slope efficiency

Liekki demonstrates very high efficiency ytterbium-doped large mode area polarization maintaining (PM) fibers

Liekki has demonstrated very high efficiencies with polarization maintaining large mode area fibers. These fibers are part of the highly doped Yb1200 product family, which has already shown excellent efficiencies and high resistance to photodarkening.

As an example, over 83% slope efficiency has been measured with Yb1200-30/250DC-PM. High efficiency combined with the industry's highest cladding absorption of 3.8dB/m at 920nm and excellent beam quality achieved through flat refractive index profile (RIP) technology make this fiber an ideal choice for high peak average power pulsed laser systems. With just 3 meters in application length and large 30 μ m core, record breaking pulse energies may be achieved.

Yb1200 product family currently features three [PM fibers](#)*: Yb1200-10/125DC-PM, Yb1200-20/400DC-PM and Yb1200-25/250DC-PM (the last fiber also available with a 30 μ m core variant). Yb1200-10/125DC-PM with 10 μ m core is excellent for high brightness, high efficiency fiber amplifiers while the 20 μ m core Yb1200-20/400DC-PM features the industry standard dimensions designed for several 100W level pump powers. In addition, all-glass versions of selected PM fibers will be released in Q4/2005. Please [contact Liekki](#) sales team for further information.

* Yb1200 refers to ytterbium doped fiber with 1200 dB/m core absorption. Figures 10/125 gives the core and cladding diameter respectively.

[Request more information](#) | [Back to top](#)

The completion of the first phase of the Liekki factory upgrade has increased our flexibility and reduced our throughput times - better fibers, faster, with more advanced features

Liekki has recently successfully completed the first phase of the factory upgrade that started in the end of 2004. The upgrade ensures shorter throughput time, more flexibility and increased production capacity. With the redesign of the factory the production process is now optimized to a new level. The production scheduling is improved and throughput time reduced, allowing reduced leadtimes. New state-of-the-art equipment has been introduced throughout production. To increase yield, to improve quality, safety and repeatability and to eliminate human errors, automation of the process steps has also been implemented. We can now serve our customers with high quality products even faster, more efficiently, and with greater flexibility.

The second phase of the factory upgrade is ongoing and will continue until the end of the year 2005. The second phase will double the production capacity.

[Request more information](#) | [Back to top](#)



Liekki's Direct Nanoparticle Deposition technology recognized by Frost & Sullivan's Technology Leadership Award

In June Liekki was awarded with the distinguished European Technology Leadership Award 2005. The award recognizes Liekki's pioneering doped optical fiber manufacturing technology, based on the innovative use of direct nanoparticle deposition of rare earth metals. The award recognizes the technical breakthrough Liekki's Direct Nanoparticle Deposition (DND) represents over previous technologies such as MCVD with solution doping. [Read the press release.](#)

"Overall, Liekki's outstanding level of innovation and leadership for technology development in the field of doped optical fibers using nanotechnology-enabled processes underlines the company's selection as the award recipient," concludes Mr. Bidwe, Research Analyst with Frost & Sullivan. [See the award recognition.](#)

[Request more information](#) | [Back to top](#)

[Contact Liekki](#)

! Some links may not function properly in Lotus Notes.

If you are unable to read this newsletter properly, please visit www.liekki.com/newsletters.

To report distribution, formatting or other technical problems with the newsletter, please contact us at newsletter@liekki.com

If you [wish to unsubscribe](#) the Liekki Newsletter, please reply to this email and type "Unsubscribe" in the subject line.

[Please forward this newsletter to my colleague.](#)

[Please add my colleague to the newsletter subscription list.](#)