

# Press Release



**TRUMPF Group**  
**Business Field Laser Technology**  
**Press/Public Relations**

## **TRUMPF presents new disk laser series**

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TRUMPF introduced the new TruDisk laser generation in Schramberg to international customers and experts interested in disk laser technology. On April 25 and 26, over 120 guests from nine countries saw not only the 8 kW disk laser, which will be available after the end of 2006, but also live demonstrations of robot scanner welding with a world premiere: The now available TruDisk 6002 laser with 6 kW laser power and a beam quality of 8 mm\* $\mu$ rad. Dr. Kurt Mann, Director of International Sales Laser Sources in TRUMPF's Business Field Laser Technology explained that the new disk laser series exploits the opportunities for both increased power as well as reduced costs: "The investment for our disk laser is reduced and we can offer more laser power. In terms of an economic comparison, the disk laser is ahead of high-powered fiber lasers." He continued that new high-powered diode stacks offer more power at the same price, which allows reducing the numbers of disks needed for the same output power. Dr. Mann pointed out, that the disk lasers significantly increase the high availability of lamp-pumped Nd:YAG lasers as ascertained by the industrial users.

The audience was particularly interested in the testimonials from Ralf Bernhardt, DaimlerChrysler AG and Timo Becker, Volkswagen AG. Both gave practical examples to demonstrate laser welding with disk lasers. The fact that the disk laser is not sensitive to retro reflection is important for users. As a result, laser light cables over 100 meters in length can be used. Moreover, even heavily reflecting materials like copper can be processed without problems. Christoph Deininger from the Technologiegesellschaft für Strahlwerkzeuge Stuttgart Laser Technologies presented research findings demonstrating potential applications of strongly focusing lasers. Dr. Adolf Giesen from Stuttgart University's Institut für Strahlwerkzeuge IFSW addressed the potential of disk lasers: "With an adequate level of



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pump power and using the existing disk lasers on the market, over 10 kW of power could easily be extracted from one disk.“ Through the existing practice of scaling power by coupling several disks in a resonator, any amount of power would be possible with the disk laser in principle. Jens Bleher, TRUMPFs Managing Director Sales of the business field Laser Technology added, “The disk laser currently knows no power limit for industrial relevant applications. For example, a 25 kilowatt ground-mode disk laser is currently tested by an international high-tech company.”

One of the final topics discussed was among others the space requirements of lasers. It was determined that not only the beam source was important in this regard but any peripheral equipment as well. The net effect is that the new disk lasers are the most compact systems on the market since the coolers and beam switches are integrated in the device. Another important result of the discussion was that beam management is very important for industrial solid-state laser systems. Therefore the laser beam has to leave the fiber as beam switching components are not available monolithically. Dr. Klaus Wallmeroth, Managing Director of TRUMPF Laser GmbH + Co. KG discussed the question of open resonators: “There is no difficulty in shielding a resonator. And furthermore the modular concept based on standard components allows very simple exchange of components.” In this context he pointed out, that the disk laser has no effects of thermal lensing other than the rod lasers. For this reason the disk laser is extremely insensitive to alignment.