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Transfer Prize for highly efficient diode lasers from Jenoptik cooperation.

The Ferdinand-Braun-Institute received the Transfer Prize 2012 for extraordinarily powerful diode lasers for materials processing. The institute closely cooperates with the Lasers & Material Processing division of Jenoptik.

In the course of the Laser Optics Berlin trade fair, a research team of the Ferdinand-Braun-Institute (FBH) has been awarded the Transfer Prize WissensWerte on March 19, 2012. The FBH closely collaborated with JENOPTIK Diode Lab GmbH in Berlin-Adlershof on the prize-winning project on the development of high-power diode lasers for materials processing and, thus, ensured the rapid transfer of the research results into an industrial environment. The Transfer Prize is endowed with 50,000 euros and is assigned by the friends of the Technology Foundation Berlin (TSB).

The team led by physicist Dr. Götz Erbert is developing a novel generation of diode lasers for powerful laser systems used for materials processing. The diode lasers each with one single emitter currently deliver a typical output power of around 10 Watt. To enhance the performance of laser systems, it is not sufficient to simply increase the output power of the individual diode lasers. Instead, it is necessary to improve the effectiveness of transforming electrical into optical power and to optimize the beam quality of the single diode lasers forming such systems.

Based on novel designs, the FBH has now developed diode lasers with less energy loss than usual and without reducing beam quality either. The new diode lasers from the FBH achieve an efficiency of 63 percent at an output power of 12 Watt. 15 to 20 Watt shall be achieved while maintaining their efficiency and beam quality.

A long-term and intensive cooperation connects the FBH with the Jenoptik Group, particularly with JENOPTIK Diode Lab GmbH, founded in 2002. Jenoptik is currently expanding its plant for high-power semiconductor lasers at the Berlin-Adlershof location. The production capacities will more than double from 2013.



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About Jenoptik

As an integrated optoelectronics group Jenoptik operates in the five divisions Lasers & Material Processing, Optical Systems, Industrial Metrology, Traffic Solutions and Defense & Civil Systems. In the Lasers & Material Processing division Jenoptik is one of the leading providers and has control of the entire value-added chain of laser material processing – from component through to complete system. In the area of laser, Jenoptik has specialized in high-quality semiconductor materials and reliable diode lasers as well as innovative solid-state lasers, for example thin-disk and fiber lasers. In the area of high-power diode lasers Jenoptik is acknowledged worldwide as a leader in quality. These laser sources are used, among other things, in the areas of laser material processing, medical technology and show & entertainment. In the area of laser processing systems Jenoptik develops laser systems and machines that are integrated into production facilities for our customers as part of their process optimization and automation. These systems enable our customers to work with plastics, metals, semiconductor materials and thin-film solar cells with maximum efficiency, precision and safety.

About the Ferdinand-Braun-Institute

The Ferdinand-Braun-Institute, Leibniz-Institut fuer Hoechstfrequenztechnik (FBH) researches electronic and optical components, modules and systems based on compound semiconductors. Specifically, FBH develops light sources from the visible to the ultra-violet spectral range: high-power diode lasers with excellent beam quality, UV light sources and hybrid laser systems. The FBH has a strong international reputation and ensures rapid transfer of technology by working closely with partners in industry and research. It is part of the Forschungsverbund Berlin e.V., a member of the Leibniz Association and plays an active role in various networks.

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