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[\[Image PDF \(1438K\)\]](#) [\[References\]](#)**Chances and Limitations of High Power Diode Lasers
—Results of Research and Development in Germany—**[Friedrich BACHMANN](#)¹⁾ and [Reiji TAKAHASHI](#)²⁾

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Abstract: Great expectations were expressed about the future of high power diode lasers for direct materials processing applications, when they have been introduced in the mid nineties. Nevertheless, based on their technology, i.e. how kilowatt power is generated from individual elements, which can provide just a few ten watts, there are also some limitations, especially if beam quality is considered. However, fortunately not all laser materials processing techniques require extremely high power density, i.e. high beam quality, but rather need a larger spot or a spot with a special shape. Such applications are the niches for the highly efficient and reliable diode lasers. In this context, high power diode lasers have proven to be a perfect supplement to the existing CO₂ and Nd:YAG materials processing lasers rather than a competitor for them.

Key Words: [High power diode lasers](#), [Direct diode applications](#), [Modular diode lasers](#)[\[Image PDF \(1438K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)

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