

- OVERVIEW OF THE REPORT -

This report covers lasers for industrial use (or for machining). The types of lasers as research target items include CO2 lasers, LD-pumped YAG lasers, lamp-pumped YAG lasers, fiber lasers, disk lasers, semiconductor lasers, ultra short-pulse lasers such as picosecond/ femtosecond lasers and short-wavelength lasers such as SHG/ THG lasers, which are widely utilized in many different industry segments from automotive and electronics to bio-related industries, depending on output power and wavelength of each laser type.

In this report, market size, technology trends, manufacturers' activities and many other valuable information and data obtained primarily through our face-to-face interviews with key persons in the industry are introduced. Our feature articles include observation and analysis about if conventional YAG lasers have replaced by fiber lasers, disk lasers and semiconductor lasers for kW-class, and comments from actual users about the laser systems they are using.

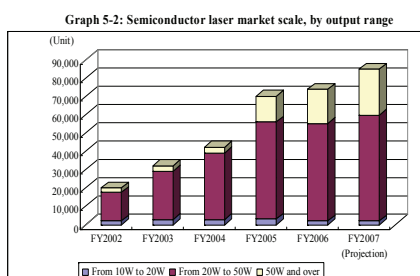
In addition, our analysis covers factors that have affected laser market and the trends in applications of lasers, which should be based on our market size forecast attempted in our past report we have periodically published.

Sample

Table 5-2: Semiconductor laser market scale, by output range (Number of units)

Output	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007 (Projection)
10W to 20W	2,154	2,718	2,868	3,034	2,020	2,050
20W to 50W	15,444	26,636	36,412	52,944	53,100	57,750
50W and over	2,370	3,008	3,020	14,222	18,900	25,130
Total	19,968	32,360	42,300	70,200	74,020	84,930

Note: The market figures shown include Japanese domestic shipments (including imports and exports by Japanese manufacturers).

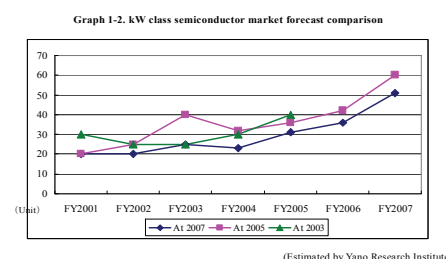


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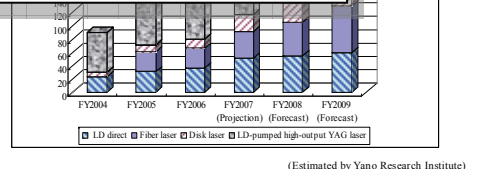
Table 1-2: kW class semiconductor market forecast comparison (Number of units)

Actual figures/ projection/ forecast	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007
At 2003 Actual figures/ projection/ forecast	30	25	25	30	40	-	-
At 2005 Actual figures/ projection/ forecast	20	25	40	32	36	42	60
At 2007 Actual figures/ projection	20	20	25	23	31	36	51

(Estimated by Yano Research Institute)



1) Forecast at 2003
At this time, research and development proceeded on direct processing applications for semiconductor lasers going beyond excitation light sources. High-output semiconductor lasers already on the market offered outputs of up to 6 kW following increases in semiconductor device output and advances in the technology required to produce diode bars, arrays, and stacks. Projected applications included resin bonding and surface hardening, welding, and other metal processing that previously required YAG and CO2 lasers.



While influenced by economic fluctuations, the market for high-output solid-state lasers has experienced gradual growth, standing at around 150 units as of fiscal 2007. These results fall short of expectations when LD-pumped high-output YAG lasers and semiconductor direct lasers first appeared on the market. Growth was slower than expected due to factors such as high initial cost and insufficient reliability stemming from the instability of laser oscillators.

5-3. Manufacturer Output Figures and Trends

5-3-1. Manufacturer Output Figures

Table 5-4: Sub-100 W-class semiconductor laser market scale (over 10 W) (Number of units)

Manufacturer	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007 (Projection)
Coherent	11,500	20,000	21,000	22,000	25,000	30,000
Spectra Physics	280	530	1,000	1,200	2,000	2,500
Jenoptik (Kantam Electronics)	1,600	1,600	1,600	1,700	1,800	2,000
Others	6,588	10,130	18,500	45,000	47,020	52,430
Total	19,968	32,360	42,300	70,200	74,020	84,930

Note: The market figures shown include Japanese domestic shipments (including imports and exports by Japanese manufacturers).
* Coherent Japan figures are based on the September accounting period.

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Laser Market in Japan 2008

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