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Analysis of CO2 Laser Market

Richardson made several references to the CO2 laser market in its recent Q2 FY12 earnings call. The company disclosed that it is strategically allocating resources to this growth market. This is evidenced by a meaningful ramp up of inventory (\$30.9 to \$35.3 million) over the past two quarters. Tube sales into the CO2 laser market presently comprise approximately \$20 million on a TTM basis, or roughly 12% of total company sales.

Like Richardson's other replacement tubes distribution businesses, the CO2 laser market is a trailing technology which still enjoys a solid niche position in the market due to its inherent benefits. CO2 lasers are primarily utilized for sheet metal cutting applications within industrial manufacturing. A newer technology, fiber lasers, have been growing significantly and taking some market share from CO2 lasers. Fiber lasers utilize fiber optics to focus the laser beams vs. the system of mirrors employed by CO2 lasers. Fiber lasers are generally more power efficient. Fiber lasers produce a much smaller wavelength of 1 micron vs. 10 microns for CO2 lasers. This disparity in wavelength impacts how the light is absorbed on different surfaces.

CO2 lasers remain superior to fiber lasers for cutting thicker pieces of metal, especially metal samples with thicknesses greater than 3mm. CO2 lasers can also safely cut coated metals whereas fiber lasers require the vaporization of the coatings first. CO2 lasers excel in manufacturing settings where different metal thicknesses with coatings are common and quick design changes are required with short product runs. Besides cutting effectively on carbon steels and stainless steel, CO2 lasers also perform comparatively better on non-metal materials like polymers, plastics, and organic materials. In terms of the quality of the cut, CO2 lasers leave behind less waste materials and produce smoother end cuts on sheet metals which are ideal for preventing fatigue cracks and corrosion later on in the metal's life. These are especially important considerations in the auto manufacturing industry.

A 5 x 10 foot CO2 laser typically costs \$300,000-\$800,000 vs. \$400,000-\$900,000 for fiber lasers. While CO2 lasers usually have a lower up front cost, they require significantly more maintenance than fiber lasers. The initial cost of the CO2 laser represents approximately 60% of the total life cost of the laser with maintenance expenses comprising the other 40%. The CO2 tubes need to be replaced every 2-3 years.

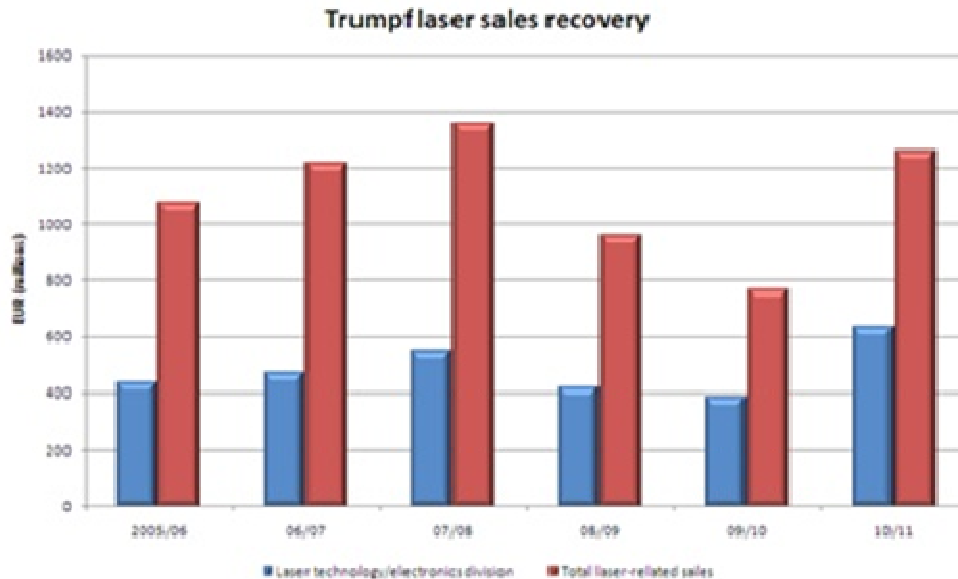
It is estimated that there are approximately 60,000¹ CO2 laser systems deployed worldwide. The estimated market size in 2010 for CO2 laser sources was \$700² million. The leading supplier is Germany-based Trumpf with approximately 20,000 installed lasers worldwide. Richardson is the largest supplier of replacement tubes for Trumpf CO2 laser systems. For FY11 ending June 30th, Trumpf reported a 51% YOY increase in laser revenues buoyed by both fiber and CO2 laser sales. The graph below depicts the company's ongoing recovery from the global financial crisis. The company is presently forecasting double digit sales growth for FY12. The company specifically cites a more robust

¹ II-VI, Inc.

² Strategies Unlimited

auto industry as well as geographical strength in Germany, China, and the Americas. In fact, the strength in China has resulted in the company recently doubling its production capacity there. As Richardson noted in the earnings call, Asia represents an important growth area for the company as CO2 lasers are relatively new in the region and service expertise is more noticeably absent.

As the graph below reflects, Trumpf's sales began recovering in 2010. Given the 2-3 year replacement cycle of CO2 tubes, Richardson may begin benefiting from a meaningful uptick in replacement sales related to Trumpf's sales surge beginning in 2012.



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