

Laser Cutting, Drilling, Marking and Engraving Market by Technology (Co2 Laser, Excimer Laser, ND: YAG Laser, Fiber Laser); Base Material (Metals, Polymers); Application (Electronics, Machine Part Marking, Medical, Signage) & Geography- (2013 – 2018)

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Abstracts

Since its advent in 1957, the early adopters of laser (light amplification by simulated emission of radiation) technology were applications such as; ranging, targeting, spectroscopy, and microscopy. The purpose of these applications was either the exploration/measurement of distances or the scientific/laboratory experiments. None of the above mentioned application promoted laser technology on the commercial front such as laser processing. However, with the technological developments, lasers became compact, robust, and versatile. Such developments triggered the industrial and commercial applications such as; micro-machining, modeling, precise sculpting, shaping & sizing objects and materials, and contactless imprinting which now are collectively referred to as laser processing applications.

The revenue generated from laser processing applications is supported by five critical pillars - laboratory equipments, defense & military, compact disc read/write heads, communications, and material processing. The research study, Laser Processing Market (2013 - 2018) analyses the vital material processing segment. The analysis is complemented by qualitative as well as quantitative data; latter being further divided into sales value, sale volume, and average selling price (ASP) data sets. Each of the data set contains historical, estimated, and forecasted values. The total laser processing market is segmented according to the technology, laser processing techniques, machine configuration, vertical, and geography.

Segmentation is done considering the supply side as well as the demand side market

parameters. Segments such as technology, laser processing techniques, and machine configuration define the supply side market, whereas, vertical, application, and geography segments define the demand side market. The technology segmentation divides the market according to the various laser technologies such as CO₂ laser, solid state lasers, fiber lasers, and excimer lasers. On the other hand, the machine configuration segment describes how the above mentioned lasers are used. Three types of configurations; moving material, flying optics, and hybrid, along with the mode of operation are covered in the report. Depending on the material type, lasers can be used in continuous mode or in a pulsed mode. The laser market data covered for various technology segments is mutually exclusive.

The major supply side segment is the laser processing technique which includes laser cutting, laser drilling, laser engraving, and laser marking. These four types of laser processing techniques have replaced the tradition mechanical processing techniques on a large scale. Depending on the application, base material type, and laser type, one can select a suitable laser processing technique. Though, techniques are different, the application market for each type wont be mutually exclusive since multiple laser processing techniques may be applied to same the product/application. The chapter also includes the level-2 segmentation of laser processing techniques, giving descriptive data sets for various types of drilling (single pulse, percussion, trepanning, helical), cutting (fusion, flame, sublimation), and marking (masking, carbon migration, bonding).

Amongst the demand side segments, application segment is of the prime importance. The report discusses various applications with their respective impacts on the total market, cannibalization factor, year-on-year growth trend, and TAM/SAM data. Laser processing applications are also divided according to the processing techniques employed, allowing the reader to analyze each of the micro-markets individually. For example, the report differentiates between the automotive application market for laser drilling and automotive application market for laser cutting. Apart from the automotive segments, other major verticals considered for the analysis are aerospace, architecture, commercial, consumer electronics, and semiconductor & electronics.

The report also segments the laser processing market by various economic pockets such as; North America, Europe, APAC, and ROW. Further, major countries contributing to the market are analyzed with detailed representation of value and volume data. Apart from the quantitative data, the report also includes qualitative data analysis by the use of various tools and models. Porters five force analysis, value chain analysis, price trend analysis, market dynamics, burning issues, and winning imperatives are few of the analysis models used.

Competitive landscape, along with the recent developments in laser processing market is also discussed in the report. The major companies covered in the report are; Epilog Laser (U.S.), Universal Laser Systems (U.S.), Trotec Laser, Inc (U.S.), Needham-laser (U.K.), SEI Laser (Italy), Eurolaser (Germany), LaserStar (U.S.), and Xenetech Global, Inc (U.S.).

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