

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.).

Contents

1 INTRODUCTION

- 1.1 KEY TAKE-AWAYS
- 1.2 REPORT DESCRIPTION
- 1.3 MARKETS COVERED
- 1.4 STAKEHOLDERS
- 1.5 REPORT ASSUMPTIONS
- 1.6 RESEARCH METHODOLOGY
 - 1.6.1 MARKET SIZE ESTIMATION
 - 1.6.2 MARKET CRACKDOWN AND DATA TRIANGULATION
 - 1.6.3 KEY DATA POINTS TAKEN FROM SECONDARY SOURCES
 - 1.6.4 KEY DATA POINTS TAKEN FROM PRIMARY SOURCES
 - 1.6.5 LIST OF MAJOR COMPANIES AND ORGANIZATIONS COVERED IN PRIMARY RESEARCH

2 EXECUTIVE SUMMARY

3 COVER STORY

DAVID A. BELFORTE, EDITOR-IN-CHIEF, INDUSTRIAL LASER SOLUTIONS

4 MARKET OVERVIEW

- 4.1 INTRODUCTION
- 4.2 MARKET DEFINITION AND SCOPE
- 4.3 MARKET SEGMENTATION
- 4.4 HISTORY AND EVOLUTION OF LASER PROCESSING MARKET
- 4.5 TECHNOLOGY AND APPLICATION TRENDS
- 4.6 ADVANTAGES OF LASER MATERIAL PROCESSING
- 4.7 THE INDUSTRIAL SAFETY FACTORS
 - 4.7.1 MAXIMUM PERMISSIBLE EXPOSURE (MPE) LEVELS
 - 4.7.2 CLASSIFICATION
 - 4.7.2.1 By IEC standard
 - 4.7.2.2 By ANSI standard
- 4.8 MARKET DYNAMICS
 - 4.8.1 DRIVERS
 - 4.8.1.1 Government regulations for compulsory use of laser marking

- 4.8.1.2 Outclassing every other substitute tools
- 4.8.1.3 Demand for the aesthetics
- 4.8.1.4 Emerging application in oil and gas exploration field
- 4.8.1.5 The introduction of direct diode lasers
- 4.8.2 RESTRAINTS
 - 4.8.2.1 High initial investment and high maintenance cost
 - 4.8.2.2 Eurozone crises
 - 4.8.2.3 Rare earth elements mining: environmental concerns
- 4.8.3 OPPORTUNITIES
 - 4.8.3.1 High adoption of Disk Lasers
 - 4.8.3.2 Automotive lights
 - 4.8.3.3 Other emerging applications and processes
- 4.9 BURNING ISSUES
 - 4.9.1 TECHNICAL CHALLENGES WITH HIGH POWER LASERS
 - 4.9.2 SAFETY ISSUES WITH LASERS
- 4.10 WINNING IMPERATIVES
 - 4.10.1 PRODUCT INNOVATION IS THE KEY
 - 4.10.2 VERTICAL CONSOLIDATION
 - 4.10.3 LASER DOPING OF SOLAR CELLS (LASSOL): TECHNOLOGY FOR SOLAR CELLS
- 4.11 PORTER'S FIVE FORCES MODEL
 - 4.11.1 THREAT FROM NEW ENTRANTS
 - 4.11.2 THREAT FROM SUBSTITUTES
 - 4.11.3 BARGAINING POWER OF SUPPLIERS
 - 4.11.4 BARGAINING POWER OF BUYERS
 - 4.11.5 DEGREE OF COMPETITION
- 4.12 VALUE CHAIN
- 4.13 PRICE TREND ANALYSIS

5 SEGMENTATION BY TECHNOLOGY

- 5.1 INTRODUCTION
- 5.2 LASERS SOURCE AND LASER SYSTEM MARKET COMPARISON
- 5.3 GAS LASERS
 - 5.3.1 CO₂ LASERS
 - 5.3.2 EXCIMER LASERS
- 5.4 SOLID STATE LASERS
 - 5.4.1 ND:YAG LASER
 - 5.4.2 ER: YAG LASER

5.5 FIBER LASERS

5.6 SEMICONDUCTOR LASERS

6 SEGMENTATION BY PROCESS

6.1 INTRODUCTION

6.2 CUTTING AND DRILLING

6.2.1 CUTTING

6.2.1.1 Fusion Cutting

6.2.1.2 Flame Cutting

6.2.1.3 Sublimation Cutting

6.2.2 DRILLING

6.2.2.1 Single Pulse Drilling

6.2.2.2 Percussion Drilling

6.2.2.3 Trepanning Drilling

6.2.2.4 Helical Drilling

6.3 MARKING AND ENGRAVING

6.3.1 DIRECT LASER ENGRAVING

6.3.2 DIRECT PHOTOPOLYMER LASER IMAGING

6.3.3 SUB SURFACE LASER ENGRAVING

6.4 MICRO-PROCESSING

6.5 ADVANCED PROCESSING

7 SEGMENTATION BY MACHINE CONFIGURATION

7.1 INTRODUCTION

7.2 TYPES OF CONFIGURATION FOR LASER CUTTING

7.2.1 MOVING MATERIAL LASER CONFIGURATION

7.2.2 FLYING OPTICS SYSTEMS LASER CONFIGURATION

7.2.3 HYBRID LASER CONFIGURATION

7.3 TYPES OF CONFIGURATION FOR LASER ENGRAVING

7.3.1 X-Y SURFACE BASED

7.3.2 CYLINDRICAL WORK PIECES

7.3.3 STATIONED LASER MACHINE

8 SEGMENTATION BY VERTICAL

8.1 INTRODUCTION

8.2 AEROSPACE

8.3 ARCHITECTURE

8.3.1 ARCHITECTURE VERTICAL SEGMENTATION BY PROCESS

8.4 AUTOMOTIVE

8.4.1 AUTOMOTIVE VERTICAL SEGMENTATION BY PROCESS

8.5 COMMERCIAL

8.5.1 COMMERCIAL VERTICAL SEGMENTATION BY PROCESS

8.5.2 COMMERCIAL VERTICAL SEGMENTATION BY APPLICATION

8.6 CONSUMER ELECTRONICS

8.6.1 CONSUMER ELECTRONIC VERTICAL SEGMENTATION BY APPLICATION

8.7 GENERAL MACHINE TOOLING

8.7.1 GENERAL MACHINE TOOLING VERTICAL SEGMENTATION BY PROCESS

8.7.2 GENERAL MACHINE TOOLING VERTICAL SEGMENTATION BY APPLICATION

8.8 SEMICONDUCTOR & ELECTRONICS

8.8.1 SEMICONDUCTOR & ELECTRONICS VERTICAL SEGMENTATION BY PROCESS

8.8.2 SEMICONDUCTOR & ELECTRONICS VERTICAL SEGMENTATION BY APPLICATION

9 SEGMENTATION BY GEOGRAPHY

9.1 INTRODUCTION

9.2 NORTH AMERICA

9.3 EUROPE

9.4 APAC

9.5 ROW

10 COMPETITIVE LANDSCAPE

10.1 OVERVIEW

10.2 MARKET SHARE ANALYSIS

10.3 KEY GROWTH STRATEGIES

10.4 COMPETITIVE SITUATION AND TRENDS

10.4.1 NEW PRODUCT DEVELOPMENTS & ANNOUNCEMENTS

10.4.2 AGREEMENTS, PARTNERSHIPS, JOINT VENTURES AND COLLABORATIONS

10.4.3 MERGERS AND ACQUISITIONS

11 COMPANY PROFILES (OVERVIEW, PRODUCTS AND SERVICES, FINANCIALS,

STRATEGY & DEVELOPMENT)

- 11.1 ALLTEC GMBH
- 11.2 ALPHA NOV LASER
- 11.3 BYSTRONIC, INC.
- 11.4 COHERENT, INC.
- 11.5 DPSS LASER, INC.
- 11.6 EPILOG LASER, INC.
- 11.7 EUROLASER GMBH
- 11.8 IPG PHOTONICS CORPORATION
- 11.9 JENOPTIK LASER GMBH
- 11.10 LASERSTAR TECHNOLOGIES CORPORATION
- 11.11 NEEDHAM LASER LTD.
- 11.12 NEWPORT CORPORATION
- 11.13 PRIMA INDUSTRIE S.P.A.
- 11.14 Q-PEAK, INC.
- 11.15 ROFIN-SINAR TECHNOLOGIES, INC.
- 11.16 SEI LASER S.P.A
- 11.17 TROTEC LASER, INC.
- 11.18 TRUMPF LASER GMBH + CO. KG
- 11.19 UNIVERSAL LASER SYSTEMS, INC.
- 11.20 XENETECH GLOBAL, INC. (Details on Overview, Products and Services, Financials, Strategy & Development might not be captured in case of unlisted companies.)

List Of Tables

LIST OF TABLES

TABLE 1 GENERAL ASSUMPTIONS, TERMINOLOGY AND APPLICATION KEY NOTES

TABLE 2 GLOBAL LASER PROCESSING MARKET, 2012 – 2018 (\$MILLION)

TABLE 3 COMAPRISON OF PROCESSES BY, VERTICALS, 2012

TABLE 4 LASER PROCESSING VS MECHANICAL PROCESSING, 2013

TABLE 5 AVERAGE SELLING PRICE OF LASERS, BY TECHNOLOGY, 2012 (\$)

TABLE 6 PUMP SOURCE KEY MANUFACTURERS AND SUPPLIERS, 2013

TABLE 7 LASER CAVITY KEY MANUFACTURERS AND SUPPLIERS, 2013

TABLE 8 LASER ELECTRONIC COMPONENT KEY MANUFACTURERS AND SUPPLIERS, 2013

TABLE 9 LASER OPTICS KEY MANUFACTURERS AND SUPPLIERS, 2013

TABLE 10 LASER ELECTRONIC SHUTTER KEY MANUFACTURERS AND SUPPLIERS, 2013

TABLE 11 PRICE ANALYSIS OF LASERS, BY TECHNOLOGY, 2012 – 2018 (\$/WATT)

TABLE 12 GLOBAL LASER PROCESSING SYSTEMS MARKET REVENUE, BY TECHNOLOGY, 2012 – 2018 (\$BILLION)

TABLE 13 GLOBAL LASER PROCESSING MARKET REVENUE, BY TECHNOLOGY, 2012 – 2018 (\$MILLION)

TABLE 14 GLOBAL LASER PROCESSING MARKET REVENUE, BY GAIN MEDIUM, 2012 -2018 (\$MILLION)

TABLE 15 ADVANTAGES OF CO2 LASERS

TABLE 16 DIFFERENCE BETWEEN CO2 LASER AND FIBER LASER

TABLE 17 GLOBAL CO2 LASER PROCESSING MARKET REVENUE, 2012 – 2018

TABLE 18 GLOBAL CO2 LASER MARKET SHARE, BY PROCESS, 2012 - 2018 (\$MILLION)

TABLE 19 TYPES OF EXCIMER LASERS

TABLE 20 GLOBAL EXCIMER LASER PROCESSING MARKET REVENUE, 2012 – 2018 (\$MILLION)

TABLE 21 GLOBAL EXCIMER LASER PROCESSING MARKET SHARE, BY PROCESS, 2012 – 2018 (\$MILLION)

TABLE 22 GLOBAL SOLID STATE LASER PROCESSING MARKET REVENUE, 2012 – 2018 (\$ MILLION)

TABLE 23 GLOBAL SOLID STATE LASER PROCESSING MARKET SHARE, BY APPLICATIONS, 2012 – 2018 (\$MILLION)

TABLE 24 ADVANTAGES OF FIBER LASER

TABLE 25 GLOBAL FIBER LASER PROCESSING MARKET REVENUE, 2012 – 2018 (\$MILLION)

TABLE 26 GLOBAL FIBER LASER PROCESSING MARKET SHARE, BY APPLICATIONS, 2012 – 2018 (\$MILLION)

TABLE 27 GLOBAL SEMICONDUCTOR LASER PROCESSING MARKET REVENUE, 2012 – 2018 (\$MILLION)

TABLE 28 GLOBAL SEMICONDUCTOR LASER PROCESSING MARKET SHARE, BY APPLICATIONS, 2012 – 2018, (\$MILLION)

TABLE 29 GLOBAL LASER PROCESSING MARKET, BY APPLICATIONS, 2012 – 2018 (\$MILLION)

TABLE 30 GLOBAL CUTTING AND DRILLING PROCESS MARKET, BY TECHNOLOGY, 2012 - 2018 (\$MILLION)

TABLE 31 TYPES OF LASER AND THEIR APPLICATIONS

TABLE 32 GLOBAL LASER CUTTING PROCESS MARKET, BY VERTICAL, 2012 - 2018 (\$MILLION)

TABLE 33 GLOBAL LASER CUTTING MARKET, BY APPLICATION, 2012 – 2018 (%)

TABLE 34 GLOBAL LASER DRILLING PROCESS MARKET, BY VERTICAL, 2012 - 2018 (\$MILLION)

TABLE 35 GLOBAL LASER DRILLING MARKET, BY APPLICATION, 2012 – 2018 (%)

TABLE 36 GLOBAL MARKING AND ENGRAVING PROCESS MARKET, BY TECHNOLOGY, 2012 - 2018 (\$MILLION)

TABLE 37 GLOBAL LASER MARKING & ENGRAVING MARKET, BY APPLICATION, 2012 – 2018 (%)

TABLE 38 GLOBAL LASER MARKING AND ENGRAVING PROCESS MARKET, BY VERTICAL, 2012 - 2018 (\$MILLION)

TABLE 39 GLOBAL MICRO-PROCESSING MARKET REVENUE, BY TECHNOLOGY, 2012 – 2018 (\$MILLION)

TABLE 40 GLOBAL LASER MICRO-PROCESSING MARKET, BY VERTICAL, 2012 - 2018 (\$MILLION)

TABLE 41 GLOBAL LASER MICRO-PROCESSING MARKET, BY APPLICATION, 2012 – 2018 (%)

TABLE 42 GLOBAL ADVANCED PROCESSING MARKET, BY TECHNOLOGY, 2012 - 2018 (\$MILLION)

TABLE 43 GLOBAL LASER ADVANCED PROCESSING MARKET, BY VERTICAL, 2012 - 2018 (\$MILLION)

TABLE 44 COMPARISON OF DIFFERENT LASER CUTTING CONFIGURATIONS

TABLE 45 GLOBAL LASER PROCESSING MARKET, BY MACHINE CONFIGURATION, 2012 – 2018 (\$MILLION)

TABLE 46 GLOBAL LASER PROCESSING MARKET REVENUE, 2012 – 2018

(\$MILLION)

TABLE 47 GLOBAL LASER PROCESSING MARKET REVENUE, BY VERTICALS,
2012 – 2018 (\$MILLION)

TABLE 48 GLOBAL LASER PROCESSING MARKET REVENUE, BY AEROSPACE,
2012 – 2018 (\$MILLION)

TABLE 49 GLOBAL LASER PROCESSING MARKET REVENUE, BY
ARCHITECTURE, 2012 – 2018 (\$MILLION)

TABLE 50 GLOBAL ARCHITECTURE LASER PROCESSING MARKET REVENUE, BY
PROCESS, 2012 - 2018, (\$MILLION)

TABLE 51 GLOBAL LASER PROCESSING MARKET REVENUE, BY AUTOMOTIVE,
2012 – 2018 (\$MILLION)

TABLE 52 GLOBAL AUTOMOTIVE LASER PROCESSING MARKET REVENUE, BY
PROCESS, 2012 - 2018 (\$MILLION)

TABLE 53 GLOBAL LASER PROCESSING MARKET REVENUE, BY COMMERCIAL,
2012 – 2018 (\$MILLION)

TABLE 54 GLOBAL COMMERCIAL LASER PROCESSING MARKET REVENUE, BY
PROCESS, 2012 - 2018 (\$MILLION)

TABLE 55 GLOBAL COMMERCIAL LASER PROCESSING MARKET REVENUE, BY
APPLICATIONS, 2012 - 2018 (\$MILLION)

TABLE 56 GLOBAL LASER PROCESSING MARKET REVENUE, BY CONSUMER
ELECTRONICS, 2012 – 2018 (\$MILLION)

TABLE 57 GLOBAL CONSUMER ELECTRONICS LASER PROCESSING MARKET
REVENUE, BY PROCESS, 2012 - 2018 (\$MILLION)

TABLE 58 GLOBAL LASER PROCESSING MARKET REVENUE, BY GENERAL
MACHINE TOOLING, 2012 – 2018 (\$MILLION)

TABLE 59 GLOBAL GENERAL MACHINE TOOLING LASER PROCESSING MARKET
REVENUE, BY PROCESS, 2012 - 2018 (\$MILLION)

TABLE 60 GLOBAL GENERAL MACHINE TOOLING LASER PROCESSING MARKET
REVENUE, BY APPLICATION, 2012 - 2018 (\$MILLION)

TABLE 61 GLOBAL LASER PROCESSING MARKET REVENUE, BY
SEMICONDUCTOR & ELECTRONICS, 2012 – 2018 (\$MILLION)

TABLE 62 GLOBAL SEMICONDUCTOR & ELECTRONICS LASER PROCESSING
MARKET REVENUE, BY PROCESS, 2012 - 2018 (\$MILLION)

TABLE 63 GLOBAL SEMICONDUCTOR & ELECTRONICS LASER PROCESSING
MARKET VERTICAL REVENUE, BY APPLICATIONS, 2012 - 2018 (\$MILLION)

TABLE 64 GLOBAL LASER PROCESSING MARKET REVENUE, 2012 – 2018
(\$MILLION)

TABLE 65 NORTH AMERICA: LASER PROCESSING MARKET, BY PROCESS, 2012
– 2018 (%)

TABLE 66 EUROPE: LASER PROCESSING MARKET, BY PROCESS, 2012 – 2018 (%)

TABLE 67 APAC: LASER PROCESSING MARKET, BY PROCESS, 2012 – 2018 (%)

TABLE 68 APAC LASER PROCESSING MARKET SEGMENTATION, BY COUNTRY, 2012 – 2018 (\$MILLION)

TABLE 69 ROW: LASER PROCESSING MARKET, BY PROCESS, 2012 – 2018 (%)

TABLE 70 LASER PROCESSING MARKET: MARKET SHARE ANALYSIS, 2012

TABLE 71 NEW PRODUCT LAUNCH/DEVELOPMENT, 2010 – 2013

TABLE 72 AGREEMENTS, PARTNERSHIPS, JOINT VENTURES & COLLABORATIONS, 2010 – 2012

TABLE 73 MERGERS & ACQUISITIONS, 2010 – 2012

TABLE 74 COHERENT: OVERALL REVENUE, 2011 - 2012 (\$MILLION)

TABLE 75 COHERENT: MARKET REVENUE, BY SEGMENTS, 2011 - 2012 (\$MILLION)

TABLE 76 COHERENT: MARKET REVENUE, BY GEOGRAPHY, 2011 - 2012 (\$MILLION)

TABLE 77 EUROLASER: OVERALL REVENUE, 2011 - 2012 (\$MILLION)

TABLE 78 IPG PHOTONICS: OVERALL REVENUE, 2011 - 2012 (\$MILLION)

TABLE 79 IPG PHOTONICS: MARKET REVENUE, BY SEGMENTS, 2011 - 2012 (\$MILLION)

TABLE 80 IPG PHOTONICS: MARKET REVENUE, BY GEOGRAPHY, 2011 - 2012 (\$MILLION)

TABLE 81 NEWPORT: OVERALL REVENUE, 2011 - 2012 (\$MILLION)

TABLE 82 NEWPORT: MARKET REVENUE, BY SEGMENTS, 2011 - 2012 (\$MILLION)

TABLE 83 NEWPORT: MARKET REVENUE, BY GEOGRAPHY, 2011 - 2012 (\$MILLION)

TABLE 84 PRIMA INDUSTRIE S.P.A. OVERALL REVENUE, 2011 – 2012 (\$MILLION)

TABLE 85 PRIMA INDUSTRIE S.P.A. MARKET REVENUE, BY SEGMENTS, 2011 – 2012 (\$MILLION)

TABLE 86 PRIMA INDUSTRIE S.P.A. MARKET REVENUE, BY GEOGRAPHY, 2011 – 2012 (\$MILLION)

TABLE 87 ROFIN-SINAR TECHNOLOGIES: OVERALL REVENUE, 2011 - 2012 (\$MILLION)

TABLE 88 ROFIN-SINAR TECHNOLOGIES: MARKET REVENUE, BY SEGMENTS, 2011 - 2012 (\$MILLION)

TABLE 89 ROFIN-SINAR TECHNOLOGIES: MARKET REVENUE, BY GEOGRAPHY, 2011 - 2012 (\$MILLION)

TABLE 90 SEI LASER: OVERALL REVENUE, 2010-2011 (\$MILLION)

List Of Figures

LIST OF FIGURES

FIGURE 1 MARKETS COVERED FOR ANALYSIS

FIGURE 2 MARKET RESEARCH METHODOLOGY

FIGURE 3 MARKET CRACKDOWN AND DATA TRIANGULATION

FIGURE 4 LASER OPERATING MODES

FIGURE 5 ELEMENTS OF LASER

FIGURE 6 TYPES OF LASER

FIGURE 7 LASER PROCESSING MARKET SEGMENTATION BY SUPPLIERS SIDE

FIGURE 8 LASER PROCESSING MARKET SEGMENTATION BY DEMAND SIDE

FIGURE 9 INVENTION OF MAJOR LASER PROCESSING TECHNOLOGIES

FIGURE 10 EVOLUTION OF LASER TECHNOLOGY

FIGURE 11 REVISED SYSTEM AS PER IEC STANDARD

FIGURE 12 LASER SYSTEM AS PER ANSI (U.S.) STANDARD

FIGURE 13 PORTER'S FIVE FOR ANALYSIS OF LASER PROCESSING MARKET,
2012

FIGURE 14 LASER PROCESSING MARKET: THREATS FROM NEW ENTRANTS,
2012

FIGURE 15 LASER PROCESSING MARKET: THREATS FROM SUBSTITUTES, 2012

FIGURE 16 LASER PROCESSING MARKET: BARGAINING POWER OF SUPPLIERS,
2012

FIGURE 17 LASER PROCESSING MARKET: BARGAINING POWER OF BUYERS,
2012

FIGURE 18 LASER PROCESSING MARKET: DEGREE OF COMPETITION, 2012

FIGURE 19 VALUE CHAIN OF LASER SYSTEMS, 2013

FIGURE 20 LASER SOURCE REVENUE AND LASER SYSTEM REVENUE
COMPARISON, 2012

FIGURE 21 CARBON DIOXIDE (CO₂) LASER SETUP

FIGURE 22 SOLID STATE LASER SETUP

FIGURE 23 FIBER LASER SETUP

FIGURE 24 FIBER BRAGG GRATINGS (FBG)

FIGURE 25 TYPES OF LASER CUTTING

FIGURE 26 TYPES OF LASER DRILLING

FIGURE 27 FACTORS DETERMINING LASER MACHINE

FIGURE 28 KEY GROWTH STRATEGIES

FIGURE 29 DPSS LASERS: PRODUCT LINE

FIGURE 30 DPSS LASERS: APPLICATIONS

FIGURE 31 LASER PROCESS: EPILOG LASER PRODUCT LINE

FIGURE 32 ROFIN-SINAR TECHNOLOGIES: BUSINESS SEGMENT

FIGURE 33 TRUMPF LASER: PRODUCT LINE

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