Solid-State Laser Market CAGR to be at 9.8% from 2025 to 2029 | $4.58 Billion Industry Revenue by 2029

The Business Research Company's Solid-State Laser Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

The Business Research Company

LONDON, GREATER LONDON, UNITED KINGDOM, October 7, 2025 /EINPresswire.com/ -- "Get 30% Off All Global Market Reports With Code ONLINE30 – Stay Ahead Of Trade Shifts, Macroeconomic Trends, And Industry Disruptors

What Is The Projected Market Size & Growth Rate Of The Solid-State Laser Market?
Over the last few years, the solid-state laser market has experienced significant expansion. The market is projected to climb from $2.86 billion in 2024 to $3.15 billion in 2025, demonstrating a compound annual growth rate (CAGR) of 10.1%. The notable progress over the historical period can be traced back to the widespread acceptance of cutting-edge material processing techniques, rising usage in 3D printing (additive manufacturing), escalating incorporation in semiconductor fabrication, growing demand in the production of automotive electronics, increased usage in laser spectroscopy, and their mounting relevance in defense targeting and range finding.

> The Business Research Company's Latest Report Explores Market Driver, Trends, Regional Insights - Market Sizing & Forecasts Through 2034"
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In the coming years, the solid-state laser market is projected to experience robust growth and reach a market value of $4.58 billion by 2029, with a compound annual growth rate (CAGR) of 9.8%. This growth over the period is due to a surge in demand for high-accuracy manufacturing, expanding uses in medical imaging and diagnostics, increased microelectronics fabrication employing lasers, growing usage in laser-based communication technologies, and heightened adoption of laser-based security and defense systems. Key emerging trends during this period encompass improved power efficiency, compact and portable designs, blending with automation

systems, the rise of ultrafast pulsed lasers, and progress in precision material processing.

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What Is The Crucial Factor Driving The Global Solid-State Laser Market?
The solid-state laser market is predicted to grow due to the increasing automation in manufacturing. Automation in manufacturing refers to the utilization of technology, machinery, and control systems to conduct production procedures with little human intervention. This increase in automation brings benefits such as better efficiency, accuracy, and consistency, as well as reduced labor costs and mistakes. The popularity of automation in manufacturing is rising as it leads to cost and time savings, enhanced output, improved quality, and less reliance on labor. Solid-state lasers are applied in manufacturing for precision in cutting, welding, marking, and material processing efficiently. For example, in September 2024, the International Federation of Robotics (IFR), a German nonprofit organization, reported that industrial robot installations in the UK increased by 51%, reaching 3,830 units. Meanwhile, in the Americas, over 50,000 units were installed for the third year in a row, adding up to a total of 55,389 units in 2023. Hence, the continuous surge in manufacturing automation is fueling the growth of the solid-state laser market.

Who Are The Emerging Players In The Solid-State Laser Market?
Major players in the Solid-State Laser Global Market Report 2025 include:
• TRUMPF GmbH + Co. KG
• Coherent Inc.
• IPG Photonics Corporation
• Jenoptik Aktiengesellschaft
• Spectra-Physics a division of MKS Instruments Inc.
• Lumibird Group
• nLIGHT Inc.
• EKSPLA UAB
• Laser Quantum Limited
• RPMC Lasers Inc.

What Are The Upcoming Trends Of Solid-State Laser Market In The Globe?
Significant businesses in the solid-state laser industry are concentrating on the creation of innovative products like a single-emitter laser diode, with an aim to upgrade beam quality, enhance efficacy, boost output power, and broaden their utility in areas like telecommunications, medical apparatus, industrial production, and scientific study. A single-emitter laser diode is a semiconductor laser wherein the light is produced from one diminutive active zone (which is the emitter) on the diode chip. For illustration, Coherent Corp, an American semiconductor manufacturing firm, in June 2025, introduced the SES18-880A-190-10, a high-powered 880 nm single-emitter laser diode on a sub mount, contrived for the effective and reliable pumping of diode-pumped solid-state (DPSS) lasers. It delivers 18 W optical output, above 62% efficiency,

and a 97% polarization extinction ratio, thus providing superior performance, reliability, and cost efficiency. By using Coherent's 6-inch GaAs wafer platform with a vertically integrated manufacturing process, excellent thermal management and beam quality get assured. Designed to excel over traditional 808 nm pumping, it reduces thermal problems while enriching mode quality.

What Segments Are Covered In The Solid-State Laser Market Report?
The solid-state laser market covered in this report is segmented
1) By Type: Continuous Wave Lasers, Pulsed Lasers
2) By Technology: Diode Pumped Solid-State Laser (DPSSL), Fiber Laser, Disk Laser, Thin Slab Laser, Optically Pumped Semiconductor Laser (OPSL), Other Technologies
3) By Wavelength Range: Ultraviolet (UV), Visible, Infrared (IR), Mid-Infrared (MIR)
4) By Application: Cutting, Welding, Marking, Engraving
5) By End User: Healthcare, Manufacturing, Aerospace And Defense, Scientific Research, Other End-Users

Subsegments:
1) By Continuous Wave Lasers: Single-Mode Lasers, Multi-Mode Lasers
2) By Pulsed Lasers: Q-Switched Lasers, Mode-Locked Lasers, Gain-Switched Lasers

View the full solid-state laser market report:
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Which Region Is Projected To Hold The Largest Market Share In The Global Solid-State Laser Market?
In 2024, North America held the top position in the Solid-State Laser Global Market. The Asia-Pacific region is predicted to experience the most rapid growth during the forecast period. The report encapsulates the regions of Asia-Pacific, Western Europe, Eastern Europe, North America, South America, Middle East, and Africa.

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