

Global Laser-Induced Breakdown Spectroscopy Market Insights, Growth, Size, Trends and Forecasts, 2023 – 2031

Global Laser-Induced Breakdown Spectroscopy Market to Gain CAGR of 6.34% over 2023 – 2031; says Absolute Markets Insights

HOUSTON, TEXAS, UNITED STATES, July 12, 2023 /EINPresswire.com/ -- Laser-induced breakdown spectroscopy (LIBS) is a technique used to analyze the elemental composition of a sample by generating a plasma through the interaction of a laser pulse with the sample. It is a powerful tool in analytical chemistry and material science for rapid and non-destructive elemental analysis. LIBS can be applied to a wide range of sample types, including solids, liquids, gases, and even biological materials. Additionally, it requires minimal sample preparation, making it a convenient and versatile analytical tool. Applications of LIBS are diverse and include environmental monitoring, geological analysis, forensic science, metal alloy analysis, quality control in manufacturing processes, and archaeology, amongst others. The technique has found utility in various industries, such as aerospace, pharmaceuticals, agriculture, and mining, due to its ability to rapidly determine elemental composition with high sensitivity and accuracy.



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In recent years, research and development efforts have focused on enhancing the capabilities of LIBS, such as improving detection limits, extending the range of detectable elements, and increasing the spatial resolution for mapping elemental distribution on a sample's surface. These advancements continue to expand the applications and potential of laser-induced breakdown spectroscopy market.

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Global Laser-Induced Breakdown Spectroscopy Market Key Highlights

Market Value in 2022: USD 285.78 Mn

Growth Rate: 6.34%

Drivers: Rise in demand for LIBS for real time results which can be applied for various sample types

Opportunities: Ongoing developments in laser technology, detectors, and spectrometers can enhance LIBS capabilities.

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Which Application Segment had the Highest Share in the Global Laser-Induced Breakdown Spectroscopy Market in 2022?

Laser-induced breakdown spectroscopy (LIBS) is widely used for industrial materials analysis due to its non-destructive nature, rapid analysis capabilities, and ability to analyze a wide range of materials. Due to the ease of analysis and portability of the device a few years ago, LIBS gained an industrial dimension for analysis in a number of areas. This method stands out since it can examine any kind of substance in any kind of physical state, whether it solid, liquid, or gas. Because it can be employed in situ, remotely, without sample preparation, and enables knowing the fundamental composition of the required material, this multi-elementary approach might also satisfy the analytical demands specified in the environment sector ETM-related mining. In the upcoming years laser-induced breakdown spectroscopy will have huge scope across various industries leading to the growth of the overall global laser-induced breakdown spectroscopy market.

Based on Region Segment, which Region is Anticipated to be the Fastest Growing Region in the Laser-Induced Breakdown Spectroscopy Market During the Forecast Period?

Asia Pacific region is projected to be the fastest growing region during 2023-2031. Laser-induced breakdown spectroscopy (LIBS) has gained significant attention and application in Asia across various fields. Countries such as India, China, Japan have been actively involved in LIBS research and development, with applications in areas such as environmental monitoring, metallurgy, and materials analysis. Online analysis in large-scale process sectors including coal utilisation, metallurgy, and cement production is the most significant application field for LIBS in Asia, particularly in China. The sizeable coal market in China provided encouragement for a detailed examination into coal analysis utilizing LIBS. A potential market for laser-induced breakdown spectroscopy will thus emerge in Asia given these characteristics in the future years.

Global Laser-Induced Breakdown Spectroscopy Market Competitors

- o Applied Spectra
- o Avantes BV
- o B&W Tek
- o Hitachi High-Tech Analytical Science
- o HORIBA, Ltd.
- o Ibsen Photonics
- o Laser 2000
- o SciAps, Inc
- o SECOPTA analytics GmbH
- o tec5 AG
- o Thermo Fisher Scientific Inc
- o WuXi Jeibo Instrument Technology Co Ltd.
- o Other Industry Participants

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Global Laser-Induced Breakdown Spectroscopy Market:

By Product Type

- o Handheld
- o Desktop

By Application

- o Mineral, Rock, Sediment, and Soil Analysis
- o Deep Ocean Analysis
- o Pollution Monitoring
- o Industrial materials analysis
- o Environmental monitoring
- o Military chemical and biological agents
- o Forensics analysis
- o Pharmaceutical Research and Development
- o Engine Oil analysis
- o Gemology
- o Space Exploration
- o Others

By End Users

- o Research Organizations
- o Pharmaceutical and Biotechnology companies
- o Manufacturing companies

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By Region

- o North America (U.S., Canada, Mexico, Rest of North America)
- o Europe (France, The UK, Spain, Germany, Italy, Nordic Countries (Denmark, Finland, Iceland, Sweden, Norway), Benelux Union (Belgium, The Netherlands, Luxembourg), Rest of Europe)
- o Asia Pacific (China, Japan, India, New Zealand, Australia, South Korea, Southeast Asia (Indonesia, Thailand, Malaysia, Singapore, Rest of Southeast Asia), Rest of Asia Pacific)
- o Middle East & Africa (Saudi Arabia, UAE, Egypt, Kuwait, South Africa, Rest of Middle East & Africa)
- o Latin America (Brazil, Argentina, Rest of Latin America)

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