Laser Marking - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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Report description:

The Laser Marking Market size is estimated at USD 3.91 billion in 2024, and is expected to reach USD 5.18 billion by 2029, growing at a CAGR of 5.80% during the forecast period (2024-2029).

Laser marking is frequently utilized to enhance traceability, quality control, and process improvement in equipment manufacturing. By assigning an identification to each component at the beginning of the production line, barcode readers may track parts at every manufacturing stage.

Key Highlights
-Traditional laser markers and integrated machines have typically been restricted to a flat planar field of view, which may be adjusted for inclined planes or cylindrical surfaces by rotating and moving the object during marking. However, as manufacturing has evolved to include more complex-shaped characters, laser markers have been integrated into programmed robotics or advanced 5-axis machines.
-Laser marking is an incredibly versatile technology used across various industries. It can create permanent marks on multiple surfaces through laser etching, engraving, or annealing. This remarkable technology is applied in healthcare and pharmaceuticals, automotive, electronics, machine tools, and packaging sectors.
-The market is influenced by the expanding usage in different industries and the rise in investment in research and development, which results in improved functionality of laser markers. Laser marking is frequently employed to aid in traceability, quality control, and process enhancement during the manufacturing process of equipment. Continuing research and innovation will be crucial in developing laser marking processes that are environmentally responsible, guaranteeing both operational excellence and ecological integrity. This will pave the way for sustainable market growth. The key to remaining competitive in the market is increasing investment in research and development and creating innovative products.

-The high initial investment can challenge small businesses or startups operating on limited budgets. Laser marking machines can entail a notable upfront expense, which can differ based on factors such as laser placement, power needs, marking area size, and additional functionalities. Consequently, the elevated initial cost may impede the expansion of the market.
-Various macroeconomic factors, including COVID-19, adversely impacted the global laser marking market. The strict lockdown measures implemented worldwide caused disruptions in the supply chain. Leading manufacturing countries like the United States, Germany, the United Kingdom, and China, which previously showed significant demand for equipment and machinery, were heavily affected by the pandemic, leading to a suspension in the market for such products. The manufacturing sector in the United States thrived because companies allowed nonessential employees to work remotely as part of their virus containment measures. China faced a slowdown in growth, while Asian markets paused, and the Western market, which the government had targeted in their recent five-year plan, struggled with a resurgence of the pandemic.

Laser Marking Market Trends

Machine Tools to be the Largest End User

- Laser marking automotive parts is a flexible and permanent process that helps track and identify parts during and even after manufacturing. It marks text, logos, or other images with great precision and detail. In the automobile sector, components need to be fully traceable, not only for safety reasons but also for technical reasons. Automobile manufacturers use unique, forgery-proof, and easy-to-read data matrix codes and alphanumeric inscriptions in the vehicles. The laser markers are used to immortalize these important codes on almost any material, regardless of whether the components are made from plastic or metal.
- Many auto parts and components are made from plastics, light metals, and steel and are marked for traceability and quality control. These markings must be durable and last the car's or part's life, even when exposed to high temperatures and fluids such as oil and gas. Thus, laser marking of automotive parts offers lasting marks over time on most materials used in car manufacturing.
- Moreover, laser markings can be applied easily and quickly, making them a cost-effective solution for mass production, making it easier to manage component malfunctions, and lowering the possibility of errors.
- Laser marking in the automotive industry offers numerous benefits, such as durability, protection against forgery, maximum precision, speed, and high contrast. Automobile manufacturers make laser technology the ideal method for labeling components. Since laser marking is also resistant to thermal stress and exposure to acids, gasoline, oils, and heat, maximum traceability is permanently guaranteed for each component in terms of quality. Laser marking is also economically beneficial thanks to its ease of use and high speed.
- Moreover, the rising middle-class income and a huge population create global demand for automobiles, thus supporting market growth. According to IBEF, the Indian auto industry aims to increase car exports five times from 2016 to 2026. The total number of automobile exports from India in FY2022 was 5,617,246 units.
- Several automobile manufacturers focus on expanding their manufacturing capacity to meet the growing demand, thus supporting market growth. For instance, in October 2023, the Hyundai Motor Company and the Public Investment Fund (PIF) announced the signing of a joint venture agreement to construct a highly automated vehicle manufacturing plant in Saudi Arabia.

Asia-Pacific Expected to Witness Significant Growth

- The Asia-Pacific includes several developing countries with strong growth in their manufacturing sectors. The developing countries in the region, such as China, India, South Korea, Taiwan, and Vietnam, attract several businesses from other areas or countries to relocate their low-skilled and medium-skilled production facilities to these developing countries, which are working at

lower costs, the region has become a global manufacturing hub.
- Furthermore, development to improve the foreign investment situation in the region has been made by the governments of these countries. For instance, the Indian government has recently launched an initiative called 'Make in India' aimed at promoting enterprises to set up shop in India and encouraging their specific investments into manufacturing. In addition, the Chinese Government has introduced a National Strategic Plan for Further Development of the Chinese Manufacturing Sector called 'Made in China 2025'.
- Moreover, manufacturing spending in the region has increased significantly and is expected to continue rising at a reasonable growth rate over the years. The key factors stimulating demand for laser marking solutions in that region are this sharp increase in production expenditures and the adoption of new technologies. In addition, it is characterized by several advanced countries whose manufacturing sectors have given rise to a significant growth opportunity for laser marking markets.
- Given its cost-effectiveness, reliability, and product uniqueness, laser marking technology is generally adopted across a wide range of industrial sectors. Several companies, especially in the health and defense sectors, are implementing protocols for permanently marking a wide range of products to trace their provenance, evidence of identity, or documentation purposes. Moreover, the aviation and automotive sectors are increasingly adopting this technology. Automobile companies use this technology to print serial numbers on tires without changing shape. It is believed that laser marking has been a helpful option in comparison to traditional engravers due to its high durability and the ability to distinguish many different aircraft parts.
- The use of laser marking equipment in electronic devices is extensive. Many electronics and semiconductor products are manufactured, making it necessary to perform an automatic marking and engraving process. The components are usually marked with various information engraved on the marking machines.

Laser Marking Industry Overview

The laser marking market is fragmented, with the presence of major players like Coherent Inc., IPG Photonics Corporation, TRUMPF Group, Mecco Partners LLC, and Gravotech Group. Players in the market are adopting strategies such as partnerships and acquisitions to enhance their product offerings and gain sustainable competitive advantage.

- September 2023 - Videojet Technologies Inc. announced that it would showcase Industry 4.0 innovations in marking, coding, and printing at Pack Expo 2023. The company introduced the new Videojet 3350 and Videojet 3350 Smart Focus laser marking systems, designed to mark precise, complex codes at high speed for the food, beverage, cosmetics, pharmaceutical, and other industries. Both systems offer virtually unlimited font, code, and graphics options in other industries.
- June 2023 - Coherent Corporation announced the launch of the PowerLine PS 30 picosecond laser marking machine for corrosion-resistant black marking and precision micromachining in medical device manufacturing. The PowerLine PS 30, with its high average power, quickly completes black marking and micro-machining tasks, significantly improving production productivity and cost of ownership while maintaining very high reliability.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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