

Optical Metrology Market by Equipment (Autocollimators, Measuring Microscopes, Profile Projectors, Optical Digitizers and Scanner (ODSs), Multi-Sensor CMM, Video Measuring Machines (VMMs), and Others), End Use (Automotive, Aerospace and Defense, Energy and Power, Electronic Manufacturing, Industrial, Medical, and Others), and Region 2023-2028

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Abstracts

Market Overview:

The global optical metrology market size reached US\$ 2.91 Billion in 2022. Looking forward, IMARC Group expects the market to reach US\$ 4.02 Billion by 2028, exhibiting a growth rate (CAGR) of 5.70% during 2023-2028. The widespread product adoption in various industries, enhanced focus on research and development (R&D) activities to ensure quality, rapid technological advancements, and the implementation of various government initiatives represent some of the key factors driving the market.

Optical metrology refers to the science and technology of measuring physical quantities and properties of optical techniques. It involves the use of light, lasers, and related optical components to make precise measurements of various parameters such as length, displacement, shape, surface roughness, thickness, refractive index, and more. Optical metrology is used to understand the behavior of light, including its reflection, refraction, interference, diffraction, absorption, and scattering. It also helps to obtain quantitative data about the physical properties of objects or materials under investigation. As compared to traditional measurement techniques, optical metrology

offers high precision, non-contact measurement, and fast data acquisition. As a result, it is widely used across manufacturing, engineering, material science, semiconductors, biotechnology, and research applications.

Optical Metrology Market Trends:

The growing trend towards automation in the manufacturing industry is one of the key factors creating a positive outlook for the market. Optical metrology systems are integrated into automated production lines that provide accurate and reliable measurements in real-time. In line with this, the widespread product adoption in various industries, such as manufacturing, automotive, aerospace, and semiconductor, that require high-precision measurements for quality control, process optimization, and product development is propelling the market growth. Moreover, various advancements in optical technologies that enable more accurate and efficient measurement techniques are acting as another growth-inducing factor. Apart from this, the introduction of three-dimensional (3D) metrology in various industries to measure complex geometries, perform shape analysis, and verify dimensional accuracy is providing an impetus to the market growth. Additionally, the increasing adoption of metrology solutions that can measure and analyze micro and nano-scale features owing to the growing demand for miniaturization is contributing to the market growth. Furthermore, the widespread utilization of optical metrology in medical applications, such as ophthalmology and dentistry, is positively influencing the market growth. Other factors, including the integration of optical metrology with digital technologies and automation, enhanced focus on research and development (R&D) activities, and increasing emphasis on quality assurance and inspection, are presenting remunerative growth opportunities for the market.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global optical metrology market, along with forecasts at the global, regional, and country levels from 2023-2028. Our report has categorized the market based on equipment and end use.

Equipment Insights:

Autocollimators

Measuring Microscopes

Profile Projectors

Optical Digitizers and Scanner (ODSs)

Multi-Sensor CMM

Video Measuring Machines (VMMs) Others

The report has provided a detailed breakup and analysis of the optical metrology market based on the equipment. This includes autocollimators, measuring microscopes, profile projectors, optical digitizers and scanner (ODSs), multi-sensor CMM, video measuring machines (VMMs), and others.

End Use Insights:

- Automotive
- Aerospace and Defense
- Energy and Power
- Electronic Manufacturing
- Industrial
- Medical
- Others

A detailed breakup and analysis of the optical metrology market based on the end use has also been provided in the report. This includes automotive, aerospace and defense, energy and power, electronic manufacturing, industrial, medical, and others. According to the report, automotive accounted for the largest market share.

Regional Insights:

- North America
 - United States
 - Canada
- Asia-Pacific
 - China
 - Japan
 - India
 - South Korea
 - Australia
 - Indonesia
 - Others
- Europe
 - Germany
 - France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada), Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others), Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others), Latin America (Brazil, Mexico, and others) and the Middle East and Africa. According to the report, North America was the largest market for optical metrology. Some of the factors driving the North America optical metrology market included an enhanced focus on research and development (R&D) activities, widespread product adoption in various industries, and the implementation of various government initiatives.

Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global optical metrology market. Detailed profiles of all major companies have been provided. Some of the companies covered include Carl Zeiss Industrial Metrology LLC, Creaform Inc (Ametek Inc.), FARO Technologies Inc., Hexagon AB, KLA Corporation, Micro-Vu, Mitutoyo Corporation, Nikon Metrology Inc., Nova Ltd., Quality Vision International Inc., etc. Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

Key Questions Answered in This Report:

How has the global optical metrology market performed so far, and how will it perform in the coming years?

What are the drivers, restraints, and opportunities in the global optical metrology market?

What is the impact of each driver, restraint, and opportunity on the global optical metrology market?

What are the key regional markets?

Which countries represent the most attractive optical metrology market?

What is the breakup of the market based on the equipment?

Which is the most attractive equipment in the optical metrology market?

What is the breakup of the market based on the end use?

Which is the most attractive end use in the optical metrology market?

What is the competitive structure of the global optical metrology market?

Who are the key players/companies in the global optical metrology market?

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