

Optical Metrology Market Size, Share, Trends and Forecast by Equipment, End Use, and Region, 2025-2033

<https://marketpublishers.com/r/OC9C556E41ADEN.html>

Date: March 2025

Pages: 138

Price: US\$ 2,999.00 (Single User License)

ID: OC9C556E41ADEN

Abstracts

The global optical metrology market size was valued at USD 3.2 Billion in 2024. Looking forward, IMARC Group estimates the market to reach USD 4.9 Billion by 2033, exhibiting a CAGR of 4.78% during 2025-2033. North America currently dominates the market, holding a significant market share of over 34.8% in 2024. This is driven by advanced manufacturing, technological innovation, and strong demand across industries like aerospace and automotive.

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 forecast at the global, regional, and country levels from 2025-2033. The market has been categorized 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

- 1.How big is the optical metrology market?
- 2.What is the future outlook of optical metrology market?
- 3.What are the key factors driving the optical metrology market?
- 4.Which region accounts for the largest optical metrology market share?
- 5.Which are the leading companies in the global optical metrology market?

Contents

1 PREFACE

2 SCOPE AND METHODOLOGY

- 2.1 Objectives of the Study
- 2.2 Stakeholders
- 2.3 Data Sources
 - 2.3.1 Primary Sources
 - 2.3.2 Secondary Sources
- 2.4 Market Estimation
 - 2.4.1 Bottom-Up Approach
 - 2.4.2 Top-Down Approach
- 2.5 Forecasting Methodology

3 EXECUTIVE SUMMARY

4 INTRODUCTION

- 4.1 Overview
- 4.2 Key Industry Trends

5 GLOBAL OPTICAL METROLOGY MARKET

- 5.1 Market Overview
- 5.2 Market Performance
- 5.3 Impact of COVID-19
- 5.4 Market Forecast

6 MARKET BREAKUP BY EQUIPMENT

- 6.1 Autocollimators
 - 6.1.1 Market Trends
 - 6.1.2 Market Forecast
- 6.2 Measuring Microscopes
 - 6.2.1 Market Trends
 - 6.2.2 Market Forecast
- 6.3 Profile Projectors

- 6.3.1 Market Trends
- 6.3.2 Market Forecast
- 6.4 Optical Digitizers and Scanner (ODSs)
 - 6.4.1 Market Trends
 - 6.4.2 Market Forecast
- 6.5 Multi-Sensor CMM
 - 6.5.1 Market Trends
 - 6.5.2 Market Forecast
- 6.6 Video Measuring Machines (VMMs)
 - 6.6.1 Market Trends
 - 6.6.2 Market Forecast
- 6.7 Others
 - 6.7.1 Market Trends
 - 6.7.2 Market Forecast

7 MARKET BREAKUP BY END USE

- 7.1 Automotive
 - 7.1.1 Market Trends
 - 7.1.2 Market Forecast
- 7.2 Aerospace and Defense
 - 7.2.1 Market Trends
 - 7.2.2 Market Forecast
- 7.3 Energy and Power
 - 7.3.1 Market Trends
 - 7.3.2 Market Forecast
- 7.4 Electronic Manufacturing
 - 7.4.1 Market Trends
 - 7.4.2 Market Forecast
- 7.5 Industrial
 - 7.5.1 Market Trends
 - 7.5.2 Market Forecast
- 7.6 Medical
 - 7.6.1 Market Trends
 - 7.6.2 Market Forecast
- 7.7 Others
 - 7.7.1 Market Trends
 - 7.7.2 Market Forecast

8 MARKET BREAKUP BY REGION

8.1 North America

8.1.1 United States

8.1.1.1 Market Trends

8.1.1.2 Market Forecast

8.1.2 Canada

8.1.2.1 Market Trends

8.1.2.2 Market Forecast

8.2 Asia-Pacific

8.2.1 China

8.2.1.1 Market Trends

8.2.1.2 Market Forecast

8.2.2 Japan

8.2.2.1 Market Trends

8.2.2.2 Market Forecast

8.2.3 India

8.2.3.1 Market Trends

8.2.3.2 Market Forecast

8.2.4 South Korea

8.2.4.1 Market Trends

8.2.4.2 Market Forecast

8.2.5 Australia

8.2.5.1 Market Trends

8.2.5.2 Market Forecast

8.2.6 Indonesia

8.2.6.1 Market Trends

8.2.6.2 Market Forecast

8.2.7 Others

8.2.7.1 Market Trends

8.2.7.2 Market Forecast

8.3 Europe

8.3.1 Germany

8.3.1.1 Market Trends

8.3.1.2 Market Forecast

8.3.2 France

8.3.2.1 Market Trends

8.3.2.2 Market Forecast

8.3.3 United Kingdom

- 8.3.3.1 Market Trends
- 8.3.3.2 Market Forecast
- 8.3.4 Italy
 - 8.3.4.1 Market Trends
 - 8.3.4.2 Market Forecast
- 8.3.5 Spain
 - 8.3.5.1 Market Trends
 - 8.3.5.2 Market Forecast
- 8.3.6 Russia
 - 8.3.6.1 Market Trends
 - 8.3.6.2 Market Forecast
- 8.3.7 Others
 - 8.3.7.1 Market Trends
 - 8.3.7.2 Market Forecast
- 8.4 Latin America
 - 8.4.1 Brazil
 - 8.4.1.1 Market Trends
 - 8.4.1.2 Market Forecast
 - 8.4.2 Mexico
 - 8.4.2.1 Market Trends
 - 8.4.2.2 Market Forecast
 - 8.4.3 Others
 - 8.4.3.1 Market Trends
 - 8.4.3.2 Market Forecast
- 8.5 Middle East and Africa
 - 8.5.1 Market Trends
 - 8.5.2 Market Breakup by Country
 - 8.5.3 Market Forecast

9 DRIVERS, RESTRAINTS, AND OPPORTUNITIES

- 9.1 Overview
- 9.2 Drivers
- 9.3 Restraints
- 9.4 Opportunities

10 VALUE CHAIN ANALYSIS

11 PORTERS FIVE FORCES ANALYSIS

- 11.1 Overview
- 11.2 Bargaining Power of Buyers
- 11.3 Bargaining Power of Suppliers
- 11.4 Degree of Competition
- 11.5 Threat of New Entrants
- 11.6 Threat of Substitutes

12 PRICE ANALYSIS

13 COMPETITIVE LANDSCAPE

- 13.1 Market Structure
- 13.2 Key Players
- 13.3 Profiles of Key Players
 - 13.3.1 Carl Zeiss Industrial Metrology LLC
 - 13.3.1.1 Company Overview
 - 13.3.1.2 Product Portfolio
 - 13.3.1.3 SWOT Analysis
 - 13.3.2 Creaform Inc (Ametek Inc.)
 - 13.3.2.1 Company Overview
 - 13.3.2.2 Product Portfolio
 - 13.3.3 FARO Technologies Inc.
 - 13.3.3.1 Company Overview
 - 13.3.3.2 Product Portfolio
 - 13.3.3.3 Financials
 - 13.3.4 Hexagon AB
 - 13.3.4.1 Company Overview
 - 13.3.4.2 Product Portfolio
 - 13.3.4.3 Financials
 - 13.3.4.4 SWOT Analysis
 - 13.3.5 KLA Corporation
 - 13.3.5.1 Company Overview
 - 13.3.5.2 Product Portfolio
 - 13.3.5.3 Financials
 - 13.3.5.4 SWOT Analysis
 - 13.3.6 Micro-Vu
 - 13.3.6.1 Company Overview
 - 13.3.6.2 Product Portfolio

13.3.7 Mitutoyo Corporation

13.3.7.1 Company Overview

13.3.7.2 Product Portfolio

13.3.8 Nikon Metrology Inc.

13.3.8.1 Company Overview

13.3.8.2 Product Portfolio

13.3.8.3 Financials

13.3.8.4 SWOT Analysis

13.3.9 Nova Ltd.

13.3.9.1 Company Overview

13.3.9.2 Product Portfolio

13.3.9.3 Financials

13.3.10 Quality Vision International Inc.

13.3.10.1 Company Overview

13.3.10.2 Product Portfolio

Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

List Of Tables

LIST OF TABLES

Table 1: Global: Optical Metrology Market: Key Industry Highlights, 2024 & 2033

Table 2: Global: Optical Metrology Market Forecast: Breakup by Equipment (in Million USD), 2025-2033

Table 3: Global: Optical Metrology Market Forecast: Breakup by End Use (in Million USD), 2025-2033

Table 4: Global: Optical Metrology Market Forecast: Breakup by Region (in Million USD), 2025-2033

Table 5: Global: Optical Metrology Market: Competitive Structure

Table 6: Global: Optical Metrology Market: Key Players

List Of Figures

LIST OF FIGURES

?Figure 1: Global: Optical Metrology Market: Major Drivers and Challenges

Figure 2: Global: Optical Metrology Market: Sales Value (in Billion USD), 2019-2024

Figure 3: Global: Optical Metrology Market Forecast: Sales Value (in Billion USD), 2025-2033

Figure 4: Global: Optical Metrology Market: Breakup by Equipment (in %), 2024

Figure 5: Global: Optical Metrology Market: Breakup by End Use (in %), 2024

Figure 6: Global: Optical Metrology Market: Breakup by Region (in %), 2024

Figure 7: Global: Optical Metrology (Autocollimators) Market: Sales Value (in Million USD), 2019 & 2024

Figure 8: Global: Optical Metrology (Autocollimators) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 9: Global: Optical Metrology (Measuring Microscopes) Market: Sales Value (in Million USD), 2019 & 2024

Figure 10: Global: Optical Metrology (Measuring Microscopes) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 11: Global: Optical Metrology (Profile Projectors) Market: Sales Value (in Million USD), 2019 & 2024

Figure 12: Global: Optical Metrology (Profile Projectors) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 13: Global: Optical Metrology (Optical Digitizers and Scanner (ODSs)) Market: Sales Value (in Million USD), 2019 & 2024

Figure 14: Global: Optical Metrology (Optical Digitizers and Scanner (ODSs)) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 15: Global: Optical Metrology (Multi-Sensor CMM) Market: Sales Value (in Million USD), 2019 & 2024

Figure 16: Global: Optical Metrology (Multi-Sensor CMM) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 17: Global: Optical Metrology (Video Measuring Machines (VMMs)) Market: Sales Value (in Million USD), 2019 & 2024

Figure 18: Global: Optical Metrology (Video Measuring Machines (VMMs)) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 19: Global: Optical Metrology (Other Equipments) Market: Sales Value (in Million USD), 2019 & 2024

Figure 20: Global: Optical Metrology (Other Equipments) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 21: Global: Optical Metrology (Automotive) Market: Sales Value (in Million USD), 2019 & 2024

Figure 22: Global: Optical Metrology (Automotive) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 23: Global: Optical Metrology (Aerospace and Defense) Market: Sales Value (in Million USD), 2019 & 2024

Figure 24: Global: Optical Metrology (Aerospace and Defense) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 25: Global: Optical Metrology (Energy and Power) Market: Sales Value (in Million USD), 2019 & 2024

Figure 26: Global: Optical Metrology (Energy and Power) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 27: Global: Optical Metrology (Electronic Manufacturing) Market: Sales Value (in Million USD), 2019 & 2024

Figure 28: Global: Optical Metrology (Electronic Manufacturing) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 29: Global: Optical Metrology (Industrial) Market: Sales Value (in Million USD), 2019 & 2024

Figure 30: Global: Optical Metrology (Industrial) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 31: Global: Optical Metrology (Medical) Market: Sales Value (in Million USD), 2019 & 2024

Figure 32: Global: Optical Metrology (Medical) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 33: Global: Optical Metrology (Other End Use Industries) Market: Sales Value (in Million USD), 2019 & 2024

Figure 34: Global: Optical Metrology (Other End Use Industries) Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 35: North America: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 36: North America: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 37: United States: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 38: United States: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 39: Canada: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 40: Canada: Optical Metrology Market Forecast: Sales Value (in Million USD),

2025-2033

Figure 41: Asia-Pacific: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 42: Asia-Pacific: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 43: China: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 44: China: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 45: Japan: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 46: Japan: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 47: India: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 48: India: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 49: South Korea: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 50: South Korea: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 51: Australia: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 52: Australia: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 53: Indonesia: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 54: Indonesia: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 55: Others: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 56: Others: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 57: Europe: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 58: Europe: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 59: Germany: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 60: Germany: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 61: France: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 62: France: Optical Metrology Market Forecast: Sales Value (in Million USD),

2025-2033

Figure 63: United Kingdom: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 64: United Kingdom: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 65: Italy: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 66: Italy: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 67: Spain: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 68: Spain: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 69: Russia: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 70: Russia: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 71: Others: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 72: Others: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 73: Latin America: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 74: Latin America: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 75: Brazil: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 76: Brazil: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 77: Mexico: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 78: Mexico: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 79: Others: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 80: Others: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 81: Middle East and Africa: Optical Metrology Market: Sales Value (in Million USD), 2019 & 2024

Figure 82: Middle East and Africa: Optical Metrology Market: Breakup by Country (in %), 2024

Figure 83: Middle East and Africa: Optical Metrology Market Forecast: Sales Value (in Million USD), 2025-2033

Figure 84: Global: Optical Metrology Industry: Drivers, Restraints, and Opportunities

Figure 85: Global: Optical Metrology Industry: Value Chain Analysis

Figure 86: Global: Optical Metrology Industry: Porter's Five Forces Analysis

I would like to order

Product name: Optical Metrology Market Size, Share, Trends and Forecast by Equipment, End Use, and Region, 2025-2033

Product link: <https://marketpublishers.com/r/OC9C556E41ADEN.html>

Price: US\$ 2,999.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/OC9C556E41ADEN.html>