

Adaptive Optics Technology Market - Forecasts from 2018 to 2023

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Abstracts

The adaptive optics technology market is projected to witness a CAGR of 29.09% during the forecast period of 2018-2023 to reach a market size of US\$1726.83 million by 2023, increasing from US\$373.15 million in 2017. Adaptive optics is a technology finds its usage in astronomy in order to enhance optical system performance by diminishing the effect of distortions in the wavefront. For instance, the atmospheric radiation either from distant star or galaxy gets bent as soon as it enters earth's turbulent atmosphere and prevents the ability of telescope on earth to form sharp and precise image and eradicates the twisted effect of the atmosphere. In order for astronomical observation, adaptive optics should have a fairly bright reference star that is extremely close to the object selected for the study. The reference star is utilized to assess the distortion caused by the earth atmosphere in order for the deformable mirror to correct it. In the night when suitable stars are not available in the sky everywhere, simulated stars can be made by astronomers with the help of powerful laser beam into earth's outer atmosphere. Other than astronomy, adaptive technology system is widely used in various fields including such as optical communication, laser beam shaping, laser countermeasures, and ophthalmology and vision science. Increasing demand for this technology across different industry verticals drives the global market for adaptive optics technology. Furthermore, with advancement in technology, various components are being produced at a lower cost thereby driving the demand for the products using this technology. On the contrary, regulatory framework related to the use of powerful laser beam has been declared illegal by a number of countries due to security issues and can hinder the market growth.

Geographic Outlook

Geographically, the global adaptive optics technology market will be driven by North

America and Asia Pacific region. The North America market will grow on account of widespread deployment of this technology across various industry verticals such as defence and security, astronomy, and healthcare among others. Defense and security system mechanism of the US use this technology for its airborne and ground-based missile defense systems and is estimated that this will surge further due to increased defense spending. Asia Pacific will also drive the market for global adaptive optic technology due to rise in research and development activities as well as technical improvements which are done in the field of adaptive optics technology.

Research Methodology

The report provides a brief introduction of the market and deals with detailed research methodology for calculating market size and forecasts, secondary data sources used and the primary inputs which were taken for data validation. This section also outlines various segments which have been covered as part of the report.

Market Dynamics

The next section provides comprehensive market dynamics through an overview section along with growth drivers, challenges, and opportunities which exist in the current market. This section of the report also provides supplier and industry outlook as a whole; key industry, global and regional regulations which are determining the market growth and a brief aspect of adaptive optics technology. Complete industry analysis has also been covered by Porter's five forces model as a part of this report section.

Segmentation

Adaptive optics technology Market has been segmented on the basis of component, industry verticals, and geography as follows:

By component

Control System

Wavefront Modulator

Wavefront Sensor

By Industry Verticals

Astronomy

Healthcare

Manufacturing

Defense

Communication and Technology

Consumer Electronics

By Geography

Americas

North America

South America

Europe Middle East and Africa

Europe

The Middle East and Africa

Asia Pacific

Market Players

Finally, competitive intelligence section deals with major players in the market, their market shares, growth strategies, products, financials, and recent investments among others. Key industry players profiled as part of this report are Iris AO, Phasics Corp, HOLOEYE Photonics AG, and Northrop Grumman Corporation among others.

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