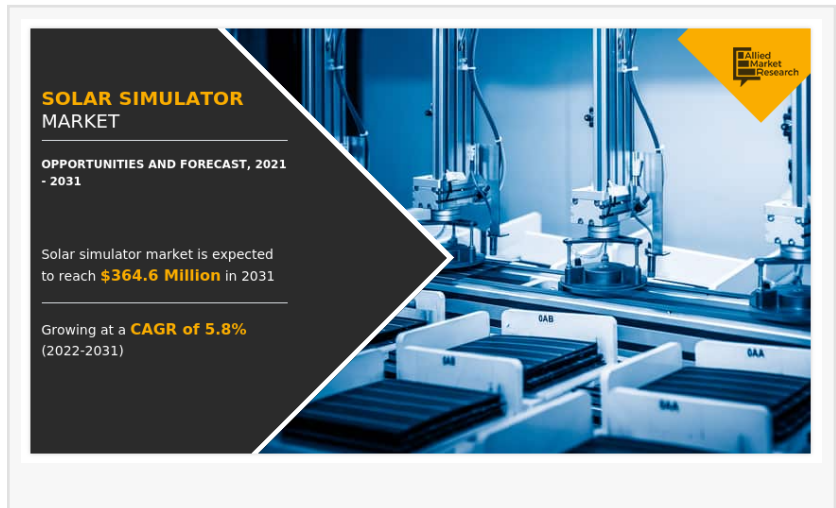


Solar Simulator Market Dynamics: Expanding Applications in Photovoltaic Testing

Solar Simulator Market Estimation Worth \$364.6 Million by 2031

WILMINGTON, DE, UNITED STATES,
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According to a new report published by Allied Market Research, the [solar simulator market](#) size was valued at \$203.6 million in 2021, and is estimated to reach \$364.6 million by 2031, growing at a CAGR of 5.8% from 2022 to 2031.



Solar simulator also known as sun simulator is a device capable of providing illumination nearly equal to natural sunlight. There are two different types of solar simulators such as steady state and pulsed solar simulators. Pulsed solar simulator may be single pulse or multi pulse solar simulators. Steady state solar simulators have 1,000 hours of continuous operation. While, pulsed solar simulators have 40,000 to 1 million flashes.

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Rapid development in the solar energy sector, growth of automotive industry, and testing requirements in biomass study, panels and others are the upcoming trends of Solar Simulator Market.”

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Solar simulators are used in testing of solar cells, modules, solar materials & products, automotive testing, textile,

biomass study, and other indoor testing facilities for R&D purposes.

Asia-Pacific garnered the dominant share in 2021, and is anticipated to maintain this dominance in solar simulator market trend during the forecast period. This is attributed to the presence of key players and huge consumer base in the region.

Rapid expansion of the renewable energy sector, rise in investment toward building & construction of renewable energy infrastructure, and increase in research & development efforts in the region are further anticipated to fuel the growth of the market in the upcoming years.

The key players operating and profiled in the [global solar simulator industry](#) report include ABB, Ltd., ABET Technologies, Inc., Asahi Spectra Co., Ltd., Endeas, Gsolar Power Co., Ltd., Iwasaki Electric Co., Ltd., Sciencetech, Inc., Schneider Electric, Solar Light Company, LLC, and Spectrolab.

Other players operating in the value chain of the global solar simulator market are OAI, Wacom Electric Co. Ltd., Nisshinbo Mechatronics, Inc., Spire Solar, and others.

Significant development of the end-use industries such as textile, automotive, paint & coatings, solar, pharmaceutical, chemicals, and healthcare has fueled the demand for solar simulators to check performance parameters of the products or materials from above mentioned industries, which in turn drives the growth of the solar simulator market during the forecast period.

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Increase in demand for solar products from developing economies such as India, China, and Japan fuel the growth of the market, globally.

High cost associated with solar simulators and disadvantages such as high-power consumption, high electronic drive costs, and short life cycles are the key factors that are expected to hamper the global solar simulator market growth in the upcoming years.

On the basis of application, the PV cell/module and material testing segment holds the largest share, in terms of revenue, and is expected to grow at a CAGR of 5.9%. This is due to rapid growth in the [solar energy industry](#) over the last decade is projected to continue in the upcoming years and owing to increased investments in renewable energy across the globe.

Automotive testing application segment is expected to grow at the fastest rate, registering a CAGR of 6.2%, throughout the forecast period.

Rise in demand for solar panels to energize home appliances such as lights and pumps rises the demand for solar based products, which in turn is expected to drive the growth of the solar simulator for the testing of modules and PV materials during the forecast period.

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On the basis of light source, the xenon arc lamp segment holds the largest share, in terms of revenue, and is expected to maintain its dominance during the forecast period.

This growth is attributed to rise in demand for xenon arc lamp based solar simulator owing to its ability to produce stable spectral equal to the sunlight without filtering from various applications including testing of PV cell or module applications.

LED lamp is the fastest-growing light source segment in the global solar simulator market, and is expected to grow at a CAGR of 6.1% during 2022–2031.

Increase in use of xenon arc lamp based solar simulator owing to advantages associated with it such as good match to sunlight spectrum, stable spectrum, ability to produce high intensity beams and others fuel the growth of the xenon arc lamp based solar simulator market in the coming years.

Depending on type, the pulsed solar simulator segment held the highest market share of about 56.7% in 2021, and is expected to maintain its dominance during the solar simulator market forecast period. This is attributed to rise in demand for pulsed solar simulators from PV module testing and other applications.

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Increase in demand for rapid & accurate measurement of electrical power output, characteristics of PV cells, modules, and solar panels for manufacturing of standard products is further expected to fuel the growth of the market in the coming years.

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Pawan Kumar, the CEO of Allied Market Research, is leading the organization toward providing high-quality data and insights. We are in professional corporate relations with various companies and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

David Correa

Allied Market Research

+1 800-792-5285

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