

Smart Glass and Smart Window Market By Technology (Active, Passive), By End User (Automotive, Aviation, Marine, Construction): Global Opportunity Analysis and Industry Forecast, 2025-2034

Market Report | 2025-03-01 | 216 pages | Allied Market Research

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Report description:

The smart glass and smart window market was valued at \$6.7 billion in 2024 and is projected to reach \$29.7 billion by 2034, growing at a CAGR of 16.5% from 2025 to 2034.

Smart glass, also known as switchable or dynamic glass, is an advanced technology designed to alter its optical properties in response to external factors or user control. It can seamlessly transition between transparency, translucency, and opacity, making it a versatile solution for a range of applications. Technologies such as electrochromic, thermochromic, photochromic, and suspended particle devices (SPD) are employed in the production of smart glass. These technologies adjust the light transmission of glass when triggered, offering benefits like privacy control, glare reduction, thermal insulation, and improved energy efficiency. In the construction industry, smart windows help optimize the use of natural light, reducing the need for artificial lighting and boosting energy efficiency. In vehicles, they improve visibility, minimize glare, and provide protection from harmful UV rays, contributing to a better driving experience and promoting energy conservation. The applications of smart glass and smart windows are expanding across various industries, including automotive, aviation, marine, construction, and architecture. In architecture, smart glass is used in modern building facades, privacy partitions, and curtain walls. Within smart homes and eco-friendly buildings, smart windows play a crucial role in enhancing energy efficiency and improving occupant comfort. Smart glass technologies are integrated into sunroofs, side windows, and rear windows, for elevating user experience and improving energy efficiency within the automotive sector. In aerospace, smart windows offer glare reduction and thermal control, making air travel more enjoyable for passengers. In addition, the marine sector benefits from smart glass, which enhances visibility and energy efficiency in ships and yachts. The potential applications for smart glass and smart windows continue to expand, revolutionizing interactions with glass surfaces in various aspects of daily life as ongoing research and development efforts progress.

Ongoing technological advancements and research and development efforts are driving innovation in the smart glass and smart

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window market. For example, companies like eLstar Dynamics in the Netherlands are developing cutting-edge smart glass technologies that provide enhanced energy efficiency and greater adaptability. In addition, the integration of smart glass with IoT systems is improving occupant comfort and operational efficiency in buildings.

Segment Review

The smart glass and smart window market is segmented on the basis of technology, end user, and region. On the basis of technology, the market is bifurcated into active and passive. On the basis of end user, the market is segregated into automotive, aviation, marine, and construction. Region-wise, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

Key Findings:

By technology, the active segment dominated the market in 2024.□

By end user, the construction segment acquired the largest share in 2024.

Region wise, Asia-Pacific dominated the market in 2024.

The report also provides a competitive analysis and profiles of leading players in the global smart glass and smart window market including Polytronix, Inc., Gauzy, View Inc., Saint Gobain, Gentex Corporation, Research Frontiers Incorporated, Smartglass International, AGC Inc., Ravenbrick LLC (Ravenwindow), and PLEOTINT LLC.

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- New Product Development/ Product Matrix of Key Players
- Patient/epidemiology data at country, region, global level
- Historic market data
- Key player details (including location, contact details, supplier/vendor network etc. in excel format)
- SWOT Analysis

Key Market Segments

By Technology

- Active
- Passive

By End User

- Automotive
- Aviation
- Marine
- Construction

By Region

- North America
- U.S.
- Canada

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- Mexico
- Europe
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- China
- Japan
- India
- South Korea
- Rest of Asia-Pacific
- LAMEA
- Latin America
- Middle East
- Africa
- Key Market Players
- Polytronix, Inc.
- Gauzy
- View Inc.
- Saint Gobain
- Gentex Corporation
- Smartglass International
- AGC Inc.
- PLEOTINT LLC
- Research Frontiers Incorporated
- Ravenbrick LLC (Ravenwindow)

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