+44 20 8123 2220
info@marketpublishers.com

Smart Glass Market by Technology (Electrochromic, Suspended Particle Display, Liquid Crystal, Photochromic, Thermochromic, Micro- blinds), Mechanism (Active, Passive), Control System (Manual, Remote, Mobile-based, Voice-based) - Global Forecast to 2029

https://marketpublishers.com/r/G1D7470525BEN.html
Date: February 2024
Pages: 230
Price: US$ 4,950.00 (Single User License)
ID: G1D7470525BEN

Abstracts

The global smart glass market is expected to be valued at USD 5.8 billion in 2024 and is projected to reach USD 9.4 billion by 2029; it is expected to grow at a CAGR of 9.8% from 2024 to 2029. The increasing adoption of smart glass in the automotive sector serves as a significant driver for the industry, propelled by various technological advancements and consumer demands. Smart glass, when integrated into automotive applications, offers a range of functionalities that enhance both safety and user experience. One key feature is glare reduction, which improves visibility for drivers, especially during challenging weather conditions. Additionally, smart glass can dynamically adjust tint levels to regulate sunlight, preventing glare and maintaining a comfortable interior temperature. For privacy and security, smart glass can be employed in windows and rearview mirrors, offering instant opacity at the touch of a button. The integration of Heads-Up Display (HUD) technology on smart glass windshields provides essential information directly in the driver's line of sight, minimizing distractions. As the automotive industry moves towards autonomous vehicles, smart glass becomes integral in creating interactive and informative displays within the vehicle. The increasing consumer preference for advanced safety features, coupled with the desire for a more connected and technologically enhanced driving experience, drives the growing adoption of smart glass in the automotive sector, making it a crucial driver for the overall smart glass market.

+44 20 8123 2220
info@marketpublishers.com

“Suspended Particle Display (SPD) technology holds second-largest share in the smart glass market”

Suspended Particle Display (SPD) technology holds the second-largest share in the smart glass market owing to its unique ability to dynamically control light transmission. SPD smart glass utilizes suspended particles within a film that can be aligned or dispersed based on an electric field, allowing rapid adjustments in tint levels. This technology offers a balance between the quick responsiveness of electrochromic systems and the simplicity of implementation, contributing to its popularity. Widely used in automotive sunroofs and windows, SPD technology provides users with instant control over glare, visibility, and privacy, making it a preferred choice in applications where real-time adjustments are crucial. The continuous refinement of SPD materials and the versatility of its applications across various sectors position it as a key player in the smart glass market.

“Active mechanism to exhibit highest CAGR in smart glass market”

Active mechanisms exhibit a higher growth rate in the smart glass market due to their dynamic and responsive nature. Active smart glass systems, driven by external stimuli such as electrical voltage or heat, provide instantaneous adjustments in optical properties like tint and transparency. This real-time adaptability is particularly appealing across diverse applications, including smart windows in homes, commercial buildings, and automobiles. The demand for active mechanisms stems from their capability to offer precise control over environmental factors, enhancing user experience by reducing glare, improving privacy, and optimizing energy efficiency. The continual innovation in active smart glass technologies, leading to improved responsiveness, energy efficiency, and cost-effectiveness, positions the active mechanism as a frontrunner in the smart glass market, driving its higher growth rate.

“Architecture end use to exhibit highest growth rate in smart glass market”

Architecture holds a higher growth rate in the smart glass market due to the increasing integration of smart glass solutions in residential and commercial buildings. The architectural sector benefits from the growing emphasis on energy-efficient and technologically advanced structures, where smart glass plays a pivotal role in optimizing natural light, regulating indoor temperatures, and enhancing overall sustainability. Smart glass applications in architecture contribute to a more comfortable and efficient living and working environment, aligning with the rising demand for smart and connected buildings. The adaptability of smart glass to various architectural designs and its ability

+44 20 8123 2220
info@marketpublishers.com

to meet evolving consumer preferences for innovative and sustainable construction practices position it as a key driver for the observed higher CAGR in the architectural end-use segment of the smart glass market.

“North America region holds for second-highest share in smart glass market”

North America secures the second-largest share in the smart glass market due to a combination of technological innovation, robust infrastructure, and a high demand for energy-efficient solutions. The region boasts a strong emphasis on sustainability, driving the adoption of smart glass in both commercial and residential construction. The mature automotive industry in North America also contributes significantly, with smart glass applications gaining traction in vehicles for enhanced safety and comfort. The presence of key market players and ongoing investments in research and development further propel North America's growth in the smart glass market. Additionally, supportive government policies and a tech-savvy consumer base contribute to the region's substantial share, marking it as a pivotal player in the global smart glass industry.

The study contains insights from various industry experts, ranging from component suppliers to Tier 1 companies and OEMs. The break-up of the primaries is as follows:

By Company Type: Tier 1 – 26%, Tier 2 – 32%, and Tier 3 – 42%

By Designation: C-level Executives – 40%, Directors – 30%, and Others – 30%

By Region: North America – 35%, Europe – 30%, Asia Pacific – 25%, and RoW – 10%

The key players operating in the smart glass market are Saint-Gobain (France), AGC Inc. (Japan), GENTEX CORPORATION (US), Corning Incorporated (US), Nippon Sheet Glass Co., Ltd (Japan) among others.

Research Coverage:

The research reports the smart glass Market, By Technology (Electrochromic, Suspended Particle Display (SPD), Liquid Crystal (LC)(Polymer Dispersed Liquid Crystal (PDLC) and Twisted Nematic (TN) Liquid Crystals), Photochromic, Thermochromic, Micro-blinds and Others), By Mechanism (Active and Passive), By Control System (Manual, Remote, Mobile-based, Voice-based and Others), By End Use

+44 20 8123 2220
info@marketpublishers.com

(Architecture (Residential and Commercial), Transportation (Automotive, Aerospace and Marine), Power Generation Plants, and Consumer Electronics & Others) and Region (North America, Europe, Asia Pacific, and Rest of the world (RoW)). The scope of the report covers detailed information regarding the major factors, such as drivers, restraints, challenges, and opportunities, influencing the growth of the smart glass market. A detailed analysis of the key industry players has been done to provide insights into their business overviews, products, key strategies, Contracts, partnerships, and agreements. New product & service launches, mergers and acquisitions, and recent developments associated with the smart glass market. Competitive analysis of upcoming startups in the smart glass market ecosystem is covered in this report.

Key Benefits of Buying the Report

Analysis of key drivers (Increasing adoption of smart glass in healthcare facilities, Increased demand for smart glass in automotive sector, Increasing integration of electrochromic materials in smart glasses, Improvement in Energy-efficiency with the use of smart glass, Government initiatives to energy-efficient construction projects), restraints (High cost of smart glasses deters large-scale adoption, Technical limitations in functioning of smart glasses, Complex manufacturing processes of smart glasses), opportunities (Higher potential of minimalist architecture in smart glasses for functionality improvement, Increasing need of smart glass technology in solar power generation plants, Expanding applications of smart glasses in automotive, aviation, and marine sectors, Increasing focus on development of sustainable buildings, Growing need of energy-efficient products, Military applications to provide potential growth opportunities in market), and challenges (High initial costs associated with R&D and manufacturing processes, Need of awareness regarding smart glass application across industries, Compliance with building codes and regulations) influencing the growth of the smart glass market.

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product launches in the smart glass market

Market Development: Comprehensive information about lucrative markets – the report analyses the smart glass market across varied regions.

Market Diversification: Exhaustive information about new products/services, untapped geographies, recent developments, and investments in the smart

+44 20 8123 2220
info@marketpublishers.com

glass market

Competitive Assessment: In-depth assessment of market shares, growth strategies, and service offerings of leading players like Saint-Gobain (France), AGC Inc. (Japan), GENTEX CORPORATION (US), Corning Incorporated (US), Nippon Sheet Glass Co., Ltd (Japan), among others in the smart glass market.

+44 20 8123 2220
info@marketpublishers.com

Contents

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

7 SMART GLASS MARKET, BY MECHANISM

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

*Details on Business Overview, Products Offered, Recent Developments, MnM View, Right to win, Strategic choices made, Weaknesses and competitive threats might not be captured in case of unlisted companies.

13 APPENDIX

+44 20 8123 2220
info@marketpublishers.com

+44 20 8123 2220
info@marketpublishers.com

About

Smart glass is also known by switchable glass, dimmable glass or dynamic glass. It is a kind of glass which changes its light transmission properties according to the provided stimulus. Based on whether, they require an electrical stimulus to respond or the level of control it offers to users; it can be categorized into Active or Passive. Electrochromic, SPD, and Liquid crystal are some of the active smart glass technologies which respond to voltage as a stimulus and adjust the light transmission property dynamically. On the other hand, Passive smart glass technologies such as Thermochromic and Photochromic react naturally to heat or light.

Smart glass technologies covered in this report are: Thermochromic, Suspended particle device (SPD), Electrochromic (EC), Liquid crystal (LC)/ Polymer dispersed liquid crystal (PDLC), Photochromic and so on. Also technical assessment of the latest, emerging smart glass technologies- micro blinds and nanocrystals are also provided. Out of all the traditional smart glass technologies, Electrochromic is being recognized as one of the promising ones, owing to the highest dynamic control, as it allows light and heat through the glass. With its unique properties such as durability and fastest switching times, Electrochromic smart glass is expected to revolutionize the architectural application segment occupying the major chunk of market revenue by 2020.

Transportation sector is another growth market for this product. In automotive segment, smart glass is becoming a popular choice for rear view mirrors and sunroofs because of the value it brings in the form of controlling the glare, tinting and so on. Reputed automobile players such as Daimler AG (Germany) and BMW AG (Germany) have used smart glass for windows and sun-roofs, in their premium cars such as Mercedes-Benz SLK and BMW Active Tourer respectively. Also aviation players such as Boeing Company (U.S.) used smart windows in its 787 Dreamliner aircraft. In order to further analyze the integration of smart windows in Boeing’s 787 Dreamliner, a case study based on the same is included in this report.

The report covers smart glass market by its applications, technology, size and geography. The detailed segmentation by commercial architectural applications included in the report covers educational buildings, corporate buildings, hospitals & lab facilities and retail applications of smart glass. While automotive segment takes into account smart glass products such as windows, doors, windshields and rear view mirrors.

+44 20 8123 2220
info@marketpublishers.com

It provides thorough analysis of the present market scenario and its projection till 2020. The report also captures the market roadmap with market size estimates, revenue forecasts, value chain, competitive landscape, leading players, and their key developments, strategies, and profile. Whereas, the geographical segmentation section gives the smart glass market for various geographical regions namely: North America, Europe, APAC, RoW and Latin America. Besides segmentation, this report encapsulates the major driving factors for smart glass market such as encouraging government legislations and policies, green building initiatives and so on.

This report also profiles key industry player of smart glass market. The detailed analysis about their strategies and developments is included in the report. These key industry players are - Asahi Glass Company (Japan), Citala Pvt. Ltd (Israel), Corning Inc (U.S.), DuPont (U.S.), Gentex Corporation (U.S.), Hitachi Chemicals (Japan), PPG Industries (U.S.), Pleotint (U.S.), Ravenbrick LLC (U.S.), Research Frontier (U.S.), Smartglass international (Ireland), SageElectrochromics (U.S.), Saint Gobain (France), Scienstry (U.S.), SPD smartglass (U.S.) and View Inc (U.S.).

This report primarily encompasses the smart glass market used in various applications. These applications are segmented in form of sectors such as architectural, transportation, solar power generation plant, electronics and others. The use of smart glass products are explained in these sectors. In addition, technologies of smart glass such as Electrochromic, SPD, Liquid crystals, Thermochromic and so on are explained in this report. Contributions of various geographies in smart glass market are analyzed and explained in geographical analysis of the report. Geographies covered in this report are Americas, Europe, APAC and ROW. Each section provides market data, trends and opportunities, key players, and competitive outlook. It also provides market tables for covering the sub-segments. In addition, the report provides 15 extensive company profiles covering all the sub-segments.

+44 20 8123 2220
info@marketpublishers.com

I would like to order

Product name: Smart Glass Market by Technology (Electrochromic, Suspended Particle Display, Liquid Crystal, Photochromic, Thermochromic, Micro- blinds), Mechanism (Active, Passive), Control System (Manual, Remote, Mobile-based, Voice-based) - Global Forecast to 2029

Product link: https://marketpublishers.com/r/G1D7470525BEN.html

Price: US$ 4,950.00 (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/G1D7470525BEN.html

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

**All fields are required

Custumer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at https://marketpublishers.com/docs/terms.html

To place an order via fax simply print this form, fill in the information below

+44 20 8123 2220
info@marketpublishers.com

and fax the completed form to +44 20 7900 3970