

SEKURIT

GLAZING IN MOTION

**20
25**

**COMPANY
OF THE YEAR**

Driving impact across the customer value chain

*RECOGNIZED FOR BEST PRACTICES IN THE
GLOBAL SMART GLAZING INDUSTRY*

FROST & SULLIVAN

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Best Practices Criteria for World-class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each recognition category before determining the final recognition recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Saint-Gobain Sekurit excels in many of the criteria in the global smart glazing space.

RECOGNITION CRITERIA	
<i>Visionary Innovation & Performance</i>	<i>Customer Impact</i>
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Megatrends	Customer Purchase Experience
Leadership Focus	Customer Ownership Experience
Best Practices Implementation	Customer Service Experience
Financial Performance	Brand Equity

The Transformation of the Smart Glazing Industry

The automotive industry continues to shift toward electrification, connected systems, and higher expectations for passenger comfort. These changes increase the need for materials that adjust to varying conditions and support multiple in-vehicle functions **without compromising the vehicle’s design**. Smart glazing nicely fits this direction as it responds to electrical signals, heat, or light and allows vehicles to manage thermal load, brightness, glare, privacy, and visibility in real time. Automakers view these capabilities as important tools to improve comfort, energy efficiency, and user experience in premium and mainstream models.

Larger roofs and wider windows bring more light and heat into the cabin, which increases heating, ventilation, and air conditioning (HVAC) loads and affects the range of electric vehicles (EV). Drivers and passengers expect better glare and brightness control, pushing original equipment manufacturers (OEM) to choose materials that offer high optical clarity, fast switching, low energy use, and stable long-term performance. Smart glazing addresses these expectations by adjusting tint levels, reducing heat gain, and improving visual comfort during day-to-day driving.

Higher automation levels also increase demand for more advanced glazing. Sensor-based systems such as cameras, light detection and ranging (LiDAR), and infrared modules often sit behind glass and require glazing with stable optical behavior, minimal distortion, and reliable light transmission. As OEMs integrate more sensors into windshield, roof, or side-glazing areas, the need grows for materials and coatings that maintain clarity across various lighting and weather conditions.

Smart glazing suppliers use a range of technologies to meet these needs. Active technologies such as polymer-dispersed liquid crystal (PDLC), electrochromic (EC), and suspended particle devices adjust their optical states through electrical signals. Passive technologies such as photochromic and thermochromic glazing react to light or temperature automatically. Frost & Sullivan points out that each option offers specific advantages for tint control, switching behavior, optical clarity, and integration complexity.

Application spans across various vehicle areas, including sunroofs, side windows, rear windows, sensor shrouds, and interior partitions. Sunroofs remain the largest application as they allow users to control the amount of light and heat entering the cabin, while windows support glare reduction and privacy control. Auto-dimming mirrors improve visibility at night, and windshields or heads-up display ready glazing support information display and advanced driver-assistance systems (ADAS) performance.

“Frost & Sullivan finds that Sekurit grounds its smart glazing development in observed mobility needs supported by rigorous experimentation and structured customer engagement. This approach increases the practicality of its solutions and supports faster, lower-risk adoption across OEM platforms.”

- Ain Sarah Aishah
Best Practices Research Analyst

However, Frost & Sullivan’s own research confirms that adoption remains limited due to high manufacturing costs, complex materials, precise lamination, and advanced electronic integration. Suppliers, OEMs, and materials developers focus on simplifying manufacturing routes, improving process yields, and reducing dependency on expensive layers. These efforts help lower overall cost and expand smart glazing into higher-volume vehicle models.

Sustainability also shapes the direction of the market.

Automakers and regulators expect materials, processes, and production sites to reduce environmental impact. Smart glazing contains layers such as conductive coatings, polymers, and electronic components, which require responsible end-of-life management. Recycling strategies separate organic and inorganic materials, allowing recovery of glass, metals, and polymers, which reduces waste and energy consumption. Suppliers that apply low-carbon materials, measure lifecycle impact, and publish transparent environmental declarations support OEM decisions in markets where sustainability metrics influence sourcing.

The combination of comfort expectations, energy efficiency demands, automation trends, and sustainability requirements continues to shape the current growth trajectory of the smart-glazing market. Companies that combine technical capability with scalable production and transparent environmental practices align with OEM priorities for next-generation vehicle platforms.

Designing Smart Glazing Around Real Mobility Needs

Saint-Gobain Sekurit (Sekurit) grounds its smart glazing strategy in specific mobility challenges that affect comfort, safety, and energy performance in modern vehicles. The company identifies these challenges through structured testing, real-world use-case studies, and continuous engagement with OEMs. Its teams evaluate how expanding glazed surfaces, vehicle electrification, and ADAS shape thermal load, glare exposure, acoustic behavior, and visibility expectations. They also track solar radiation, measure HVAC demand under various conditions, and assess optical properties that influence sensor reliability. These

empirical inputs allow Sekurit to develop glazing solutions that support drivers, passengers, and OEM engineering teams in daily operating conditions.

Thermal comfort represents a major priority because larger glazing areas intensify heat gain and increase cooling demand, which affects EV range. Sekurit addresses this challenge through thermal-management technologies such as Sekurit ComfortSky and Sekurit ClimaCoat, which block infrared radiation, stabilize cabin temperature, and limit energy consumption. Its research and development (R&D) teams validate these effects through large thermal-chamber studies and blind user evaluations that measure perceived comfort across controlled temperature gradients. These data sets help OEMs understand the thermal implications of different glazing configurations and guide design decisions for EV platforms.

Visual comfort forms another component of this approach. Sekurit measures glare exposure, switching latency, and haze across lighting environments to determine acceptable clarity and brightness thresholds. Its Sekurit AmpliSky Perla products use PDLC technology to switch instantly between transparent and opaque states. The company validates switching speed, uniformity, and clarity under various lighting conditions to ensure effective glare reduction and consistent transparency when required. These evaluations support OEM decision-making on how active light-control functions influence cabin experience.

Safety and visibility shape another part of the company's innovation work. Sekurit develops laminated glazing with optical zones optimized for camera-based ADAS functions and shapes glass precisely to avoid distortion in sensor-critical regions. The integration of heating layers such as Sekurit ClimaCoat supports de-icing and de-mist functions, allowing drivers to maintain clear visibility with reduced HVAC dependency. These capabilities respond to rising expectations for visibility in adverse weather and support OEMs in meeting safety-performance requirements.

Energy efficiency and sustainability influence multiple product decisions. Sekurit tests HVAC behavior, quantifies solar load, and evaluates acoustic-insulation trade-offs to balance comfort and energy consumption. It advances sustainability through Sekurit OTAÉ® low-carbon glass, lightweight glazing, and lead-free materials that reduce environmental impact while maintaining durability. The company reinforces these improvements through Life Cycle Assessment (LCA) and Environmental Product Declarations (EPD), which support OEM procurement and reporting needs.

Sekurit maintains an active feedback loop with OEMs throughout development. The company presents demonstrators, proofs of concept, and functional prototypes during technology days and workshops. OEM teams provide engineering feedback and system-level constraints that influence performance targets, manufacturability decisions, and design refinements. This collaboration ensures that glazing technologies align with user expectations, platform requirements, and regulatory conditions.

Frost & Sullivan finds that Sekurit grounds its smart glazing development in observed mobility needs supported by rigorous experimentation and structured customer engagement. This approach increases the practicality of its solutions and supports faster, lower-risk adoption across OEM platforms.

Aligning Long-Term Technology Roadmap with Industry Transformation

Sekurit aligns its technology roadmap with long-term mobility trends that will reshape vehicle architecture. Electrification, sustainability expectations, sensor expansion, and evolving cabin requirements guide the company's strategic R&D planning. Each trend informs glazing performance priorities and shapes investments to ensure solutions remain relevant as vehicle platforms evolve.

Electrification drives critical thermal-management considerations. Larger glazing areas increase heat transfer, which can raise HVAC consumption and reduce EV range. Sekurit's ComfortSky roofs and Sekurit ClimaCoat windshields stabilize interior temperatures, limit infrared transmission, and optimize cabin energy use. Laboratory simulations and controlled cabin-environment studies quantify heat flow, comfort levels, and HVAC response times, providing OEMs with actionable insights for energy-efficient design.

Sustainability forms another core driver. Sekurit aligns with the Saint-Gobain Group's objective of carbon neutrality by 2050 and applies circular-economy principles to product design and operations. Low-carbon OTAÉ glass, which incorporates a high proportion of recycled cullet, reduces carbon dioxide emissions by 20% to 30% compared to standard automotive glass.¹ LCA assessments and EPDs document environmental impact and support OEM reporting. Plant-level initiatives (including renewable energy deployment, material recycling, and water-recovery systems) complement product-level actions, reinforcing the company's sustainability goals across the value chain.

Sensor proliferation and ADAS expansion further shape the roadmap. Sekurit anticipates higher integration of cameras, LiDARs, and infrared sensors behind glazing surfaces. To support these systems, its teams focus on preserving optical clarity, reducing distortion, and optimizing shaping methods and coatings to maintain sensor accuracy. Simulation tools and in-house software analyze refraction, transparency, and surface conditions to ensure reliable perception of performance. These capabilities position the company to address complex automated-driving requirements as vehicles evolve.

Consumer expectations for comfort, personalization, and cabin experience guide another dimension of the roadmap. Passengers increasingly demand quieter cabins, clearer views, and greater control over privacy, temperature and brightness. Sekurit responds with acoustic laminates, switchable glazing, and customization options such as tinted glass, reflective coatings, and decorative encapsulation. Solutions such as Sekurit AmpliSky Ombra provide zonal dimming and on-demand light control. These technologies allow OEMs to meet growing demands while integrating glazing into broader interior experience strategies.

Frost & Sullivan recognizes that Sekurit maintains a consistent long-term direction by linking its technology strategy to key mobility transitions. The company studies how electrification, sustainability considerations, comfort expectations, and sensor integration redefine glazing requirements and directs R&D investments to ensure its solutions align with these evolving needs. This structured approach supports OEMs planning future platforms that require glazing systems compatible with long-range industry developments.

¹ <https://www.saint-gobain-sekurit.com/pt-pt/otaer>

Driving Competitive Edge through Global Expertise and Customer Partnership

Sekurit strengthens its competitive position by combining deep technical expertise with a collaborative global partnership model that supports OEM customers throughout vehicle development. With almost 100 years of glazing experience, including key innovations such as tempered and laminated glass, the company applies its technical foundation to address modern mobility requirements, developing materials, coatings, optics, and forming techniques that enable advanced glazing functions.

A broad global footprint reinforces this expertise. Sekurit operates production sites, R&D centers, and service centers across major automotive regions, coordinated through shared standards, processes, and active knowledge transfer. Local teams understand regional regulations and program requirements, while the global network ensures consistent quality and performance. This structure enables rapid support for platform integration questions, technical troubleshooting, and production ramp-up.

OEM collaboration forms a central pillar of Sekurit's approach. The company engages vehicle manufacturers from early concept stages, participating in trend reviews, technology days, and feasibility discussions. These interactions align optical behavior, thermal performance targets, sensor-integration requirements, and styling objectives. Sekurit adapts solutions to platform needs and offers configurable features, including switchable glazing with segmentation patterns, color choices, and zone layouts. This flexibility allows OEMs to integrate glazing functions without compromising manufacturability or system performance.

Sekurit extends collaboration into prototyping, validation, and lifecycle support. Teams use simulation tools, pilot lines, and laboratories to test optical clarity, switching behavior, thermal performance, and durability. They work closely with OEM engineers to refine specifications and resolve integration constraints. During series production and post-launch, local teams provide mounting guidance, quality assurance, and traceability support, helping OEMs manage warranty issues and monitor end-user feedback. This integrated support ensures consistent glazing performance across the vehicle lifecycle.

Recent program deployments demonstrate the effectiveness of this partnership model. Sekurit supplies EC glazing for Ferrari's early smart glazing applications and supports Renault's large-scale rollout of Sekurit AmpliSky Perla solutions in models such as Solar Bay, Rafale, and Scenic. These examples show how the company manages complex development cycles while maintaining quality across multiple sites and segments.

Frost & Sullivan observes that Sekurit creates competitive advantage by combining technical capability with a collaborative, globally coordinated customer model. This structure reduces development complexity, ensures platform consistency, and strengthens long-term OEM relationships by integrating expertise, proximity, and operational discipline.

Ensuring Reliability, Scalability, and Efficiency

Sekurit supports its smart glazing capabilities with an operational system designed for consistent, scalable production. Its plants follow standardized processes, lean manufacturing practices, and structured knowledge transfer, ensuring uniform output for complex glazing structures, advanced coatings, and

integrated electronics. Collaboration across sites enables the company to refine production methods, transfer expertise, and maintain consistent quality.

Digital traceability forms a core component of this operational framework. Each glazing piece is marked and tracked throughout production, enabling precise process analysis, root cause identification, and long-term quality management. These capabilities increase supply chain transparency and support warranty management, allowing OEMs to monitor production performance and address deviations efficiently.

Manufacturability validation ensures a smooth transition from R&D to industrial production. Sekurit uses simulation tools, pilot lines, and laboratories to confirm that new glazing solutions meet optical, thermal,

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- Priya Madhuri Karanam
Industry Analyst, TechVision

and electronic requirements before mass production. This approach reduces redesign risk, minimizes production delays, and ensures stable behavior of PDLC-based and other active glazing technologies.

Sustainability integrates into the operational model. Plants implement circular practices, resource-efficiency initiatives, and renewable-energy projects to lower environmental impact. Initiatives include rooftop solar in Chakan, wood-reuse programs in Arboç, and water-recycling systems in Shanghai.² These measures enhance efficiency and support OEMs in meeting environmental and procurement criteria.

Operational efficiency also balances performance with cost. Lean principles reduce waste, optimize throughput, and manage production costs, enabling competitive pricing and facilitating wider adoption of smart glazing functions across vehicle segments. PDLC-based roofs, for example, remove the need for mechanical shutters, simplify interior architecture, lower part counts, save weight, and increase headroom. The operational system ensures that lamination, coating, segmentation, and electronic control meet automotive standards, supporting OEM integration and consistent user experience.

Frost & Sullivan notes that Sekurit links advanced glazing technology with disciplined operations emphasizing standardization, traceability, manufacturability, and sustainability. This approach ensures consistent execution across plants, supports OEM program complexity, and reinforces reliable deployment of smart glazing solutions.

Building Brand Strength through Proven Performance

Sekurit builds its brand on a foundation of technical performance, reliability, customer centricity and visible innovation. Its long history in glass development, including the discovery of tempering in 1929 and early laminated-glass technologies, provides credibility for advancing smart-glazing capabilities. Continuous refinement of materials, forming methods, optical behavior, and integration ensures the company sustains a reputation for technical competence and innovation.

² <https://www.saint-gobain-sekurit.com/sustainability-heart-all-our-actions>

Participation in major OEM programs reinforces this reputation. Sekurit demonstrates the ability to manage complex, high-performance glazing solutions that influence thermal comfort, light control, and overall driving experience. Its team delivers consistent execution across global platforms by engaging early with technical teams and providing timely engineering support, enhancing customer confidence and strengthening its position in competitive markets.

Customer perception further contributes to brand strength. OEMs recognize Sekurit's ability to deliver consistent innovation, engineering, and industrialization across international operations. Supplier awards in markets such as India and Brazil underscore the value of early engagement, clear communication, and reliable support during production ramp-up. End-user feedback, collected through OEM channels and consumer studies, highlights benefits such as effective light control and improved thermal comfort, confirming the practical impact of the company's solutions.

Frost & Sullivan acknowledges that the combination of proven innovation, successful program deployment, and effective customer engagement reinforces Sekurit's brand presence in the smart-glazing segment. The company maintains credibility, strengthens OEM trust, and positions itself to remain a competitive force in an evolving automotive landscape.

Conclusion

Saint-Gobain Sekurit (Sekurit) demonstrates leadership in the global smart glazing market by combining need-driven innovation, long-term technology planning, global expertise, disciplined operations, and strong brand credibility. The company aligns its capabilities with broader mobility evolution, including electrification, sustainability expectations, comfort and design requirements, and sensor integration. Its strong customer partnerships, validated performance results, and large-scale implementations show that its technologies continue to deliver value across different vehicle segments. Sekurit's consistent focus on operational reliability and environmental responsibility strengthens its ability to continuously support new vehicle functionalities. The company also translates complex market pressures into actionable product strategies and reliable execution. It builds solutions that match real-world conditions, maintains industrial discipline that supports global adoption, and applies sustainability practices that reflect industry priorities. This combination nicely positions Sekurit to create long-term value for customers as smart glazing becomes a foundational element of next-generation mobility platforms.

With its strong overall performance, Saint-Gobain Sekurit earns the 2025 Frost & Sullivan Global Company of the Year Recognition.

What You Need to Know about the Company of the Year Recognition

Frost & Sullivan's Company of the Year Recognition is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Recognition Analysis

For the Company of the Year Recognition, Frost & Sullivan analysts independently evaluated the criteria listed below.

Visionary Innovation & Performance

Addressing Unmet Needs: Customers' unmet or under-served needs are unearthed and addressed to create growth opportunities across the entire value chain

Visionary Scenarios Through Megatrends: Long-range scenarios are incorporated into the innovation strategy by leveraging mega trends and cutting-edge technologies, thereby accelerating the transformational growth journey

Leadership Focus: The company focuses on building a leadership position in core markets to create stiff barriers to entry for new competitors and enhance its future growth potential

Best Practices Implementation: Best-in-class implementation is characterized by processes, tools, or activities that generate consistent, repeatable, and scalable success

Financial Performance: Strong overall business performance is achieved by striking the optimal balance between investing in revenue growth and maximizing operating margin

Customer Impact

Price/Performance Value: Products or services offer the best ROI and superior value compared to similar market offerings

Customer Purchase Experience: Purchase experience with minimal friction and high transparency assures customers that they are buying the optimal solution to address both their needs and constraints

Customer Ownership Excellence: Products and solutions evolve continuously in sync with the customers' own growth journeys, engendering pride of ownership and enhanced customer experience

Customer Service Experience: Customer service is readily accessible and stress-free, and delivered with high quality, high availability, and fast response time

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty, which is regularly measured and confirmed through a high Net Promoter Score®

Best Practices Recognition Analytics Methodology

Inspire the World to Support True Leaders

This long-term process spans 12 months, beginning with the prioritization of the sector. It involves a rigorous approach that includes comprehensive scanning and analytics to identify key best practice trends. A dedicated team of analysts, advisors, coaches, and experts collaborates closely, ensuring thorough review and input. The goal is to maximize the company’s long-term value by leveraging unique perspectives to support each Best Practice Recognition and identify meaningful transformation and impact.

STEP		VALUE IMPACT	
		WHAT	WHY
1	Opportunity Universe	Identify Sectors with the Greatest Impact on the Global Economy	Value to Economic Development
2	Transformational Model	Analyze Strategic Imperatives That Drive Transformation	Understand and Create a Winning Strategy
3	Ecosystem	Map Critical Value Chains	Comprehensive Community that Shapes the Sector
4	Growth Generator	Data Foundation That Provides Decision Support System	Spark Opportunities and Accelerate Decision-making
5	Growth Opportunities	Identify Opportunities Generated by Companies	Drive the Transformation of the Industry
6	Frost Radar	Benchmark Companies on Future Growth Potential	Identify Most Powerful Companies to Action
7	Best Practices	Identify Companies Achieving Best Practices in All Critical Perspectives	Inspire the World
8	Companies to Action	Tell Your Story to the World (BICEP*)	Ecosystem Community Supporting Future Success

*Board of Directors, Investors, Customers, Employees, Partners

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at <http://www.frost.com>.

The Growth Pipeline Generator™

Frost & Sullivan’s proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

[Learn more.](#)

Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Megatrend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

