



Sensata Technologies Recognized for

2021

Market Leadership

North American Tire Pressure

Monitoring System Aftermarket Industry

Excellence in Best Practices

Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Sensata Technologies excels in many of the criteria in the TPMS aftermarket space.

AWARD CRITERIA	
Growth Strategy Excellence	Technology Leverage
Implementation Excellence	Price/Performance Value
Brand Strength	Customer Purchase Experience
Product Quality	Customer Ownership Experience
Product Differentiation	Customer Service Experience

Growth Strategy Excellence

In 2015, Sensata Technologies acquired the tire pressure monitoring system (TPMS) brand Schrader, which was established in 1844. It continues to operate under the Schrader TPMS Solutions brand in the aftermarket.

The company is a global leader in producing TPMS solutions for automotive and heavy-duty applications. From inventing the world’s most popular Schrader pneumatic tire valves in 1844 to becoming the global

“From inventing the world’s most popular Schrader pneumatic tire valves in 1844 to becoming the global leader and pioneer in providing TPMS solutions, Schrader is constantly evolving and innovating technologies to match the global need for tire valves and TPMS solutions.”

- Anuj Monga, Associate Director

leader and pioneer in TPMS, the brand is constantly evolving and innovating technologies to match the global need for TPMS solutions. The Schrader aftermarket brand was the first company to introduce the programmable TPMS EZ-sensor® in the automotive aftermarket in 2010. Company has since then been working on upgrading its solution and in 2015, introduced the single SKU EZ-sensor® that is on the market today, which combines 314.9, 315 and 433 MHz into a single programmable sensor providing

maximum vehicle coverage. Frost & Sullivan notes that the EZ-sensor® is particularly important as TPMS has now become a standard fitment, and such a wide coverage offers a large growth potential for the

company. Currently, it is strategically collaborating with all TPMS diagnostic tool providers in the market, which is quite vital for ensuring accuracy and effectiveness across applications. In addition to these initiatives, Frost & Sullivan points out that Schrader is presently the global leader in supplying the two TPMS sensor types to the market: direct fit (OE replacement) and programmable TPMS sensors.

Brand Strength

The company's TPMS solutions are popular in North America, with the government mandate toward ensuring factory-fitted TPMS in new vehicles, thus boosting the demand for TPMS in the class 1 to 3 vehicle space from 2012. Today, more than half of all global vehicle platforms use its direct TPMS technology, indicating the strong brand strength from the original equipment manufacturer (OEM) side.

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Backed by Sensata’s strong OE presence and understanding of market needs, Frost & Sullivan notes that the TPMS sensors enjoy strong demand in the North American aftermarket as well, with a market share of around 38% to 40%, in terms of revenue, as of 2020. One of the major reasons for this success is that Schrader’s TPMS sensors are sold at many major tire warehouse distributors (WDs), traditional WDs, and retailers across North America.

Schrader’s Direct TPMS sensors are accurate and reliable in terms of sensing the tire pressure in the vehicle and sending low tire pressure alerts to the vehicle dashboard. Frost & Sullivan’s own research

suggests that providing regular and on-time TPMS sensor updates to the TPMS diagnostic tools has allowed the company to retain its brand value and reputation in the market.

Furthermore, it provides retrofit solutions for passenger vehicles across North America that did not come equipped with TPMS. Schrader is among the very few OEM brands in the market that offers retrofit solutions to the aftermarket space.

Product Quality

Schrader’s TPMS technology is popular because of its durability, quality, and reliability. It has some of the largest TPMS training research and development centers worldwide and the most comprehensive and effective TPMS education and training platform called Schrader Academy, which offers continuous training and tech support to automotive garages, and educational institutions across North America through various online eTraining sessions, recorded video series, and offline bay training. In addition, Schrader was the first company to launch eTraining in the North American TPMS space in November 2019. Frost & Sullivan analysts believe that continuous product training, well-equipped research and development centers, and better associations with major TPMS programming tool suppliers all make the company a strong market participant in terms of product quality.

Technology Leverage

Apart from the TPMS solutions for passenger vehicles, these solutions from Sensata/Schrader are available for large fleet and heavy-duty operators as well. Sensata is constantly investing in smart and connected vehicle technologies to enhance its footprint in the broader fleet ecosystem. In April 2021, Sensata has acquired XIRGO, a leading telematics and data insights company, to leverage cloud-based solutions to collect and provide data insights related to vehicle tire pressure, cargo weight, and automatic tire inflation systems for medium-to-large fleet operators.

Sensata has invested in electrification by acquiring Lithium Balance, a Denmark-based battery management system provider, in February 2021 to offer more comprehensive battery management solutions across a wide range of electrification applications in a variety of industrial and transport markets worldwide. This acquisition is an extension to Sensata's earlier acquisition of Gigavac in 2018, through which the company forayed into the electric vehicle (EV) and charging infrastructure space.

Sensata has clearly been proactively looking to expand beyond a rather commoditized space of TPMS solutions to operate instead as a data-driven, high-tech solution offering organization. These expansions, therefore, help the company leverage technical synergies across products and functions.

Price/Performance Value

Schrader's TPMS solutions are competitive in terms of price compared with other major national brands in North America. Schrader's single SKU EZ-sensor[®] can program more than 100 million direct TPMS-enabled vehicles using a single updated TPMS programming tool. In addition, the EZ-sensor[®] is the first industry patented OE replacement TPMS programmable sensor in North America, highlighting Schrader's single product performance with higher vehicle coverage in the region.

Schrader's EZ-sensor[®] allows TPMS distributors and retailers to optimize their TPMS product portfolios; this sensor acts as a single solution for a wide range of vehicle applications. Moreover, Schrader's TPMS Schrader Academy offers a wide range of TPMS training resources to TPMS technicians, TPMS sensors retailers, students, and automotive enthusiasts. TPMS training resources include training videos; webinars; and in-shop materials, such as a poster illustrating a step-by-step guide to installing and removing TPMS. Every year, the company is involved in trainings and in the last 3 years alone, the company has trained more than 6800 technicians in North America. Continuous tech support and high-quality TPMS offerings convince end users that they are using great quality products with support from the company.

Competitive pricing, higher vehicle coverage, and industry-leading training support all make Schrader's solution offerings more valuable for users in the North American market.

Customer Purchase, Ownership, and Service Experience

Sensata is well known for delivering the most durable, reliable, one-time fit TPMS solutions and sensors for both the OE market and the aftermarket (under its Schrader brand). The company offers on-time product updates and continuous training related to TPMS to various garages, making it a garage-friendly TPMS sensor supplier in the North American market. In addition, the company provides users with the ability to feel they are using a more sophisticated technology-oriented and reliable TPMS sensor in their vehicles at a more competitive price.

Schrader's TPMS sensors are available at most major WDs and retailers across North America, and the company offers a product catalogue so that users can read the complete description about any product - including product specifications and warranty details based on the vehicle selection. In addition, Sensata offers sales and service support to customers on the online portal itself, thereby making it convenient to look up any desired part number information. Having all these details on the company website allows a better overall customer purchase experience.

The Schrader brand provides a wide range of promotional items, such as technical solution charts, that can be used in garages and provide information related to technical support in the steps to clone and install the TPMS sensors. These promotional items help pass along the information to end users and offer a brand promoting opportunity. In addition, the company offers a wide range of banners, hoardings, and product catalogues to different distributors, retailers, and garages, through which the company promotes its brand value. Schrader's tech support banners are available at most tire-related garages and TPMS retailers across North America.

Defects in the company's TPMS sensors can be identified quickly with an OBD interface/TPMS diagnostic tool. By collaborating with all major TPMS programming tools suppliers, it can replace and copy all TPMS sensors with the programming tools. Moreover, Schrader's TPMS sensors can be relearned and cloned faster than any other TPMS sensor in the North American market, with close to a minimal/zero failure rate. In terms of TPMS service, Schrader's solution can be diagnosed in any TPMS service location and with most TPMS diagnostic equipment across North America, as the company strategically associates with major tire technicians and service providers across the region, allowing it to provide users with a better service support experience.

Conclusion

Frost & Sullivan concludes that Sensata Technologies and its aftermarket brand Schrader TPMS Solutions is the strongest market participant and global leader in providing TPMS systems and solutions, including programmable TPMS sensors, to the North American passenger vehicle market. The unique education and training platform Schrader Academy and sophisticated research and development centers allow it to offer better quality and reliable products at competitive pricing.

Moreover, Schrader was the first company to introduce eTraining facilities in the North American TPMS industry. Schrader's TPMS sensors are non-defective and can be programmed at a faster rate with a great one-time sensor fit. Sensata Technologies continually invests in fleet telematics and the smart, connected vehicle space and offers data-driven-oriented TPMS solutions to fleet owners through cloud technologies.

With its strong overall performance, Sensata Technologies aftermarket brand Schrader earns the 2021 Frost & Sullivan Market Leadership Award in the tire pressure monitoring system aftermarket industry.

What You Need to Know about the Market Leadership Recognition

Frost & Sullivan's Market Leadership Award recognizes the company that achieved the greatest market share resulting from outstanding performance, products, and services.

Best Practices Award Analysis

For the Market Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Growth Strategy Excellence: Company demonstrates an ability to consistently identify, prioritize, and pursue emerging growth opportunities

Implementation Excellence: Company processes support efficient and consistent implementation of tactics designed to support the strategy

Brand Strength: Company is respected, recognized, and remembered

Product Quality: Products or services receive high marks for performance, functionality, and reliability at every stage of the life cycle

Product Differentiation: Products or services carve out a market niche based on price, quality, or uniqueness (or some combination of the three) that other companies cannot easily replicate

Technology Leverage: Company is committed to incorporating leading-edge technologies into product offerings to enhance product performance and value

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers are proud to own the company's product or service, and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and of high quality

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

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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:

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

