



SensoGuard Recognized for

2021

Product Leadership

European Defense

Underground Sensors Industry

Excellence in Best Practices

Strategic Imperatives

Frost & Sullivan identifies three key strategic imperatives that impact the defense industry: geopolitical chaos, disruptive technologies, and innovative business models. Every company that is competing in the defense space is obligated to address these imperatives proactively; failing to do so will almost certainly lead to stagnation or decline. Successful companies overcome the challenges posed by these imperatives and leverage them to drive innovation and growth. Frost & Sullivan’s recognition of SensoGuard is a reflection of how well it is performing against the backdrop of these imperatives.



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. SensoGuard excels in many of the criteria in the defense underground sensor space.

AWARD CRITERIA	
<i>Product Portfolio Attributes</i>	<i>Business Impact</i>
Match to Needs	Financial Performance
Reliability and Quality	Customer Acquisition
Product/Service Value	Operational Efficiency
Positioning	Growth Potential
Design	Human Capital

Introducing Seismic Technology for Perimeter Security Solutions

Founded in 2012, Israeli company SensoGuard began developing its products to meet the need for empowering defense detection for homeland security agencies and enabling the defense market with

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- Steven Lopez, Best Practices Research Analyst

high-precision underground seismic sensor applications. Backed by defense industry experience and leveraging cutting-edge seismic technology knowledge, the company set out to develop and manufacture a broad range of underground seismic security systems. In 2017, SensoGuard broke ground by introducing the world’s first Smart Seismic Sensor for IoT applications. SensoGuard is a seismic security

contractor for the Israeli Defense Forces and provides security solutions to militaries, law enforcement, and defense sector users globally. With installations of its products in more than 20 countries, SensoGuard secures national borders, correctional facilities, and agricultural and archaeological sites, including private home [perimeter security systems](#). Frost & Sullivan commends SensoGuard on its revolutionary use of seismic technology and creating a robust line of application for various products.

Unearthing Defense Underground Capabilities with Seismic Technology

SensoGuard introduces seismic security systems that are affordable and accessible for all customers seeking robust detection and protection capabilities. The uniqueness behind SensoGuard's technology expertise is its ability to develop cutting-edge solutions utilizing sophisticated real-time Patent Protected algorithms that provide high-precision threat identification and mitigate false alarm rates using the company's unattended ground sensors (UGS) system. The UGS system is a flexible star or multi-hop mesh topology network of up to 250 wireless seismic sensors per Hub. Each sensor covers up to a 20-meter (m) radius to recognize footstep tracking and up to 50m used for detecting unauthorized digging and passing vehicles. The company offers solutions based on complete sensor-level processing, making processing more efficient and the battery power consumption lower compared to competing solutions. If needed, SensoGuard provides additional UGS hubs, streamlining simple integration into existing command and control software. Notably, because of the UGS system's seamless deployment, early detection reliability remains a key enablement. These units can reach flexible transmission ranges of up to 250 m by using built-in underground antennas and up to 1km using flexible miniature antenna. The company's seismic technology expertise enables these systems to meet the demand for battlefield-proven, plug-and-play, and maintenance-free solutions, in addition to developing more products that meet the needs of various applications.

The security opportunities that seismic technology brings to the defense sector are undoubtedly revolutionary. However, seismic systems bring forth challenges associated with complex installation and calibrations. Installing underground perimeter protection seismic systems typically requires assistance of the manufacturer engineering staff; in addition, calibration processing times become lengthy and tedious. Moreover, correct and efficient sensor operation depends on the engineer's installation quality while performing the assigned calibration task. To ensure underground seismic sensors become accessible for many applications, SensoGuard identifies the need for simplistic installation (requiring minimal expertise or extensive training) and reduces overall installation costs. The company mitigates these challenges with its line of robust seismic security solutions and eliminates the need for outside intervention. Seamless installation takes approximately 30 to 60 minutes, saving time and costs. SensoGuard recognizes that its solutions perform system processing on single sensory levels; other companies compare various sensor's data to identify different intrusion signals, which is costly and labor intensive.

Cutting-edge Solutions Provide Seamless Installation and Meet Customer Expectations

SensoGuard offers both portable and static/fixed location products designed to optimize large and small perimeters. Portable perimeter systems include the SG Rapid PTZ Kit (for securing large perimeter construction and army bases), MOSS kit, and the SG Cam Kit, designed to manage smaller private properties and high-security accessible routes. Stationary units include the company's comprehensive system InvisiFence (buried intrusion detection solution) intended for large fixed perimeter protection. SensoGuard also offers standalone detectors in its product line for small fixed location areas that act as motion detectors for integrated home security systems.

Each system brings to light the key performance benefits that help SensoGuard's customers (both civic and military) choose which units will match their specific needs:

- **SG Rapid PTZ Kit:** This system includes features such as online access to real-time data using a wireless receiver to secure areas from theft, poaching, and illegal dumping for larger field areas.
- **SG Cam Kit:** Depending on the perimeter size, this robust kit uses precision sensors and a battery-operated camera that provides security teams with smartphone alerts and alarm triggers. Uniquely, SG Cam Kit can detect approaching footsteps, digging, and passing vehicles, securing critical points and access routes. SG Cam Kit also aims to identify illegal dumping and hunting and manage security for military bases and private facilities. This system is cost-conscious and reliable when securing small, designated areas.
- **MOSS Kit:** system which was designed to assist in ambush operations.

Targeted for Militaries, LAE's and security guards, the system provides 360⁰ situational awareness by detecting & classifying movement in key locations (penetration routes) and provides early warning to operators on field.

The MOSS kit is using SensoGuard AIO (All-In-One) sensors which provides short-term operation in a small and light unit.

- **InvisiFence:** Designed for international border protection, factories, agricultural sites, and prisons, this system offers cutting-edge features that make it highly durable and ideal for providing the utmost protection. SensoGuard notes the system is invisible, weatherproof, and maintenance-free, making the unit a leading solution in the defense market. InvisiFence also

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Research Analyst**

allows customers to control system notifications and commands appropriately, such as camera operating and signaling alarms to areas impacted by possible breaches.¹

Furthermore, cost savings is a highlighted benefit that SensoGuard provides customers. The company promises simple product installation; therefore, it is one of the only vendors that can work with any distributor or local channel partner. SensoGuard notes that its focus on overall growth relies on its commitment to work with potential distributors and partners, including local representatives, where the

company provides training, knowledge, and information about its product line. During 2020, SensoGuard witnessed most of its revenue increase coming from outside of Israel. The company maintained growth strides even during the COVID-19 pandemic, thanks in part to the feasibility of installation. Ensuring reliability and meeting customer expectations in Israel sets a foundation for the company to expand globally in the future.

¹ Ibid.

Customer Satisfaction and Future Growth

Local beta field testing in Israel allows the company to establish a beneficial business-to-customer relationship. SensoGuard can utilize customer feedback to streamline and simplify the entire life cycle of its solutions from development, manufacturing, installation, and future service and maintenance. The company encourages customers to provide constructive feedback and identify any areas where SensoGuard can improve its services. While customer surveys remain part of SensoGuard's standard feedback mechanism, the company initiates online customer interviews and meetings as a way to strengthen relationships and address customer needs first-hand. SensoGuard leverages its development maturity, which allows the company to focus on specific application solutions and produce products for various projects. The company adapts and modifies its products to match specific solutions, e.g., with its SG Wireless system used for illegal dumping by adding a wireless camera kit to the sensor. SensoGuard recognizes that this modified system is ideal for a customer with one or two dumping sites; therefore, to meet the need of a customer with more sites, the company provides a cloud server that helps manage the numerous sites and their installed sensor units. SensoGuard positions itself to move towards being a solutions-based company overall and adapt its products to different solutions, which Frost & Sullivan feels it achieves.

Ensuring it maintains its innovative edge, the company continues its effort towards streamlining product enhancements. SensoGuard notes that it is the only company that creates a hardware platform for each of its products, making constant improvements toward reducing assembly time, resulting in a higher return on investment for the customer. In addition, SensoGuard has unique software for designing system layout and preparing quotation according to an integrators field site survey (based on size and which product would accommodate the area effectively) The company notes that, based on customer feedback, shipping plays a significant role and impacts the customer ordering process; SensoGuard manages to minimize the entire shipped unit size by 50% which lead to reduction of shipping costs by approximately 30%. The company also encourages employee feedback as part of its successful customer-centric modifications.

In 2020, SensoGuard witnessed upward growth regarding sales, even during the lack of travel due to the COVID-19 pandemic. The company invests in taking its UGS system one step higher and working on creating complete solutions for residential houses, with pending patents in place. In Q4/2020 the company received another order of 50 tactical kits from the Israeli MoD which is using those kits from 2013²; in August of 2020, SensoGuard signed with a large critical infrastructure site located in Africa to equip the area with 40 km of the InvisiFence system.³ SensoGuard's customer base is mostly outside of Israel, and Frost & Sullivan recognizes the company's potential to reach customers across the globe.

² <https://www.israeldefense.co.il/en/node/45251> , Accessed February 2021

³ <https://www.einpresswire.com/article/524347959/the-earth-hears-sensoguard-buried-seismic-sensors-will-protect-a-40km-infrastructure-site-in-africa>, accessed January 2021

Conclusion

Seismic technology use and its adoption reshape how the defense industry increases security levels and better protects against intrusion and physical threats. Introducing state-of-the-art underground sensor systems, SensoGuard is one of the leading companies in Europe that focuses on developing a unique product line of seismic sensor-based protection systems. The company promises seamless installation, accessibility, and cost-conscious solutions that meet demands across various applications, securing national borders, correctional facilities, and agricultural and archaeological sites, including private home perimeter security systems. SensoGuard offers reliable, weather-resistant military-grade solutions that require minimal maintenance. Frost & Sullivan recognizes SensoGuard's strides and commitment towards reshaping sensor-based security and defense solutions.

With its strong overall performance and cutting-edge solutions, SensoGuard earns Frost & Sullivan's 2021 Europe Product Leadership Award in the defense underground sensors market.

What You Need to Know about the Product Leadership Recognition

Frost & Sullivan's Product Leadership Award recognizes the company that offers a product or solution with attributes that deliver the best quality, reliability, and performance in the industry.

Best Practices Award Analysis

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

Product Portfolio Attributes

Match to Needs: Customer needs directly influence and inspire the product portfolio's design and positioning

Reliability and Quality: Products consistently meet or exceed customer expectations for performance and length of service

Product/Service Value: Products or services offer the best value for the price compared to similar market offerings

Positioning: Products serve a unique, unmet need that competitors cannot easily replicate

Design: Products feature innovative designs, enhancing both visual appeal and ease of use

Business Impact

Financial Performance: Strong overall financial performance is achieved in terms of revenues, revenue growth, operating margin, and other key financial metrics

Customer Acquisition: Customer-facing processes support efficient and consistent new customer acquisition while enhancing customer retention

Operational Efficiency: Company staff performs assigned tasks productively, quickly, and to a high-quality standard

Growth Potential: Growth is fostered by a strong customer focus that strengthens the brand and reinforces customer loyalty

Human Capital: Commitment to quality and to customers characterize the company culture, which in turn enhances employee morale and retention

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 Engine™

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

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 six 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)

