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# Frost Radar™: Israeli Counter-Unmanned Aerial Systems, 2024

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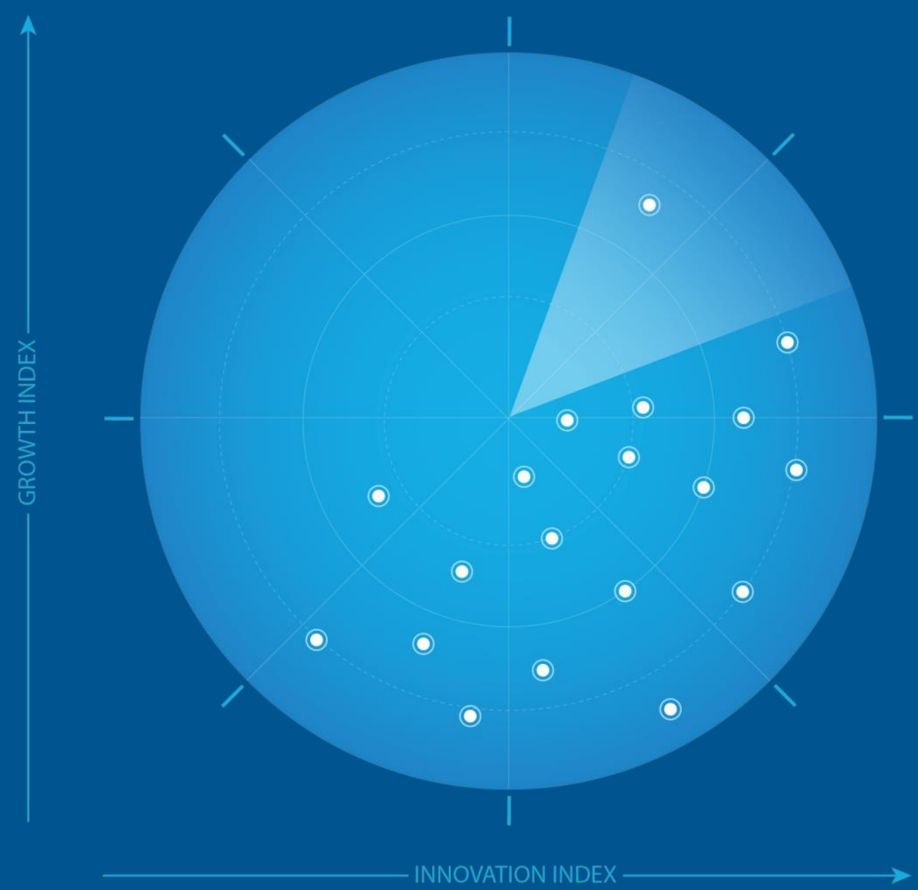
A Benchmarking System to Spark Companies to Action - Innovation That Fuels New Deal Flow and Growth Pipelines




PFID-22
August 2024

# Strategic Imperative and Growth Environment

# Strategic Imperative

## Factors Creating Pressure on Growth

- The Israeli counter-unmanned aerial system (C-UAS) industry is one of the most prestigious and innovative in the world. It is enjoying a more significant defense budget allocation amid emerging threats, particularly in light of the October 2023 Hamas terrorist organization attack, as well as aerial threats to the country's border security by Iran's proxies in the region, including Hezbollah, Houthi rebels, and Hamas. The dominant threat is kamikaze swarm drones that could severely damage critical national infrastructure (CNI).
- The Hamas attack, during which primitive loitering munitions and tactical drones struck Israeli Defense Forces (IDF) surveillance sites, emphasized the importance of C-UAS platforms for IDF operational efficiency and border security requirements as part of a broader need to update the national security posture. The Israeli Ministry of Defense (MoD) in early 2024 declared its immediate intentions to prioritize C-UAS solutions. The Directorate of Defense, Research, & Development (DDR&D) is expected to take the lead for additional research, development, testing, and evaluation (RDT&E) to mitigate emerging threat scenarios, including the proliferation of military drone swarms, considered a weapon of mass destruction. The DDR&D is in charge of national military C-UAS technologies, while the IDF is responsible for the modernized C-UAS posture and deployment on the field.

Source: Frost & Sullivan

# Strategic Imperative

## Factors Creating Pressure on Growth

- The domestic C-UAS industry enjoys close ties with the US defense establishment and defense industry, leveraging its products and innovative, agile spirit for deeper collaborations and increasing the potential for additional business in the United States and among other NATO members.
- The industry is advancing rapidly, focusing on low-collateral intercepts based on technologies ranging from high-power, microwave-directed energy to tactical solutions for combatants, such as handheld C-UAS capability alongside electronic warfare (EW) and cyber solutions to counter drones.

Source: Frost & Sullivan

# Growth Environment

- Defense C-UAS platforms are specifically designed to track and intercept small military and commercial drones, which have become the dominant aerial threat on the modern battlefield. Current C-UAS solutions rely on traditional kinetic weapon systems, electromagnetic systems (including RF and GPS jamming), modern direct energy (laser) platforms, or a combination of systems and methodologies.
- C-UAS capabilities and solutions are evolving as the threat does. End users are seeking robust solutions for large-scale tactical drone attacks, which have become the most common and imminent type of threat.
- Traditional—and expensive—multiple-sensor systems, also known as multimodal systems, are driving market growth, mainly because of the advanced technologies that military C-UAS solutions demand. The weaknesses of both C-UAS and small drones will be exploited operationally during a prolonged cat-and-mouse game in which Israel and its adversaries, led by Iran and its allies, develop ways to beat the other's capabilities.

Source: Frost & Sullivan

# Growth Environment

- One of the main operational obstacles is the lack of a system-layered approach to counter aerial threats. Even though the industry is growing globally, only Israel holds an evolving and somewhat robust C-UAS-layered doctrine based on its prestigious indigenous defense industry innovation skills and battlefield expertise.
- Frost & Sullivan characterizes the Israeli military C-UAS market as mature. Amid growing operational needs and emerging threats, it is expected to grow as modernized C-UAS integrates into IDF multidomain operational approaches. The industry/defense establishment ecosystem led by the MoD and its innovation hubs is a substantial growth engine for local C-UAS players, as is the emerging bilateral RDT&E collaboration between the MoD and the US Department of Defense (DoD). However, the export of advanced Israeli C-UAS technologies is subject to regulation and restrictions determined by US authorities, including the DoD and the Federal Aviation Administration (FAA).

Source: Frost & Sullivan

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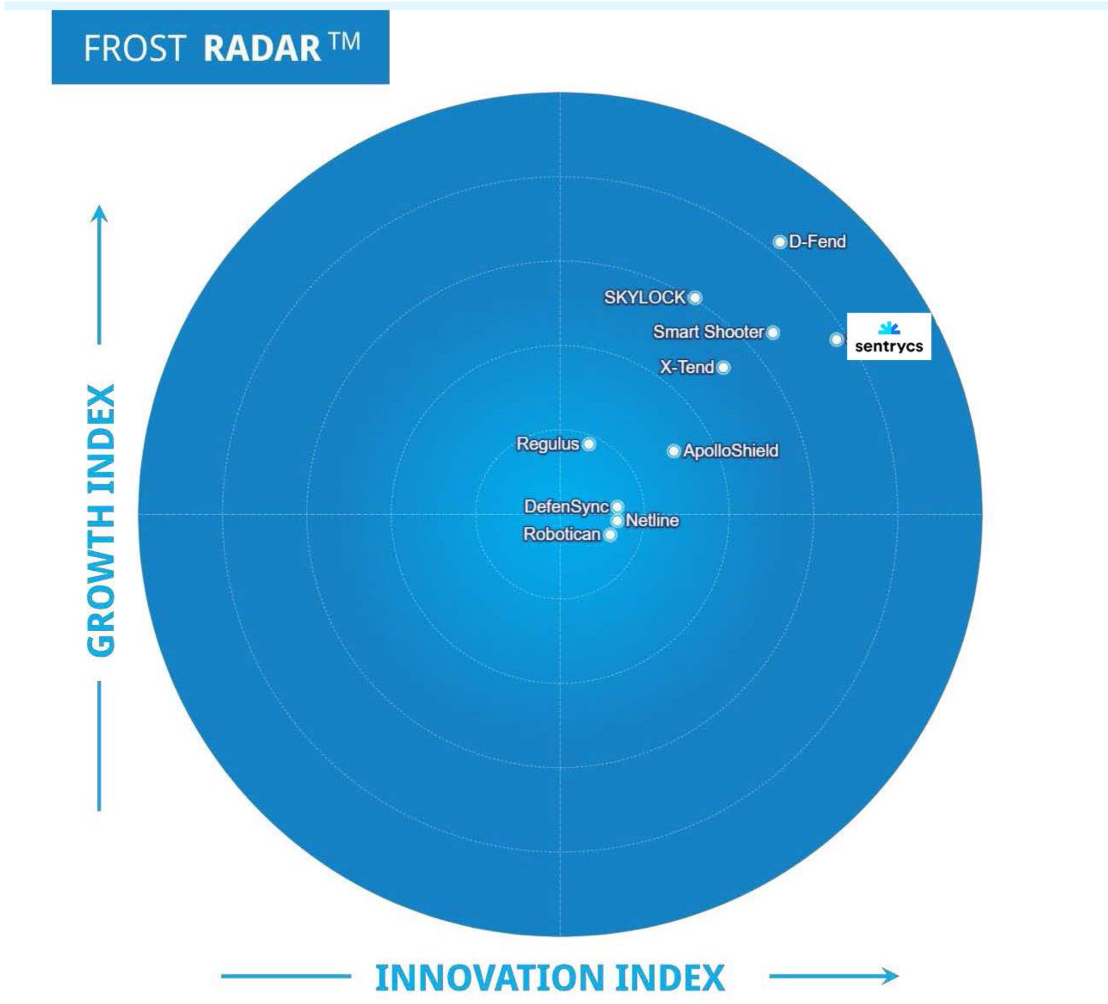
# Frost Radar™

# Israeli Counter-Unmanned Aerial Systems, 2024

# Frost Radar™: Israeli Counter-Unmanned Aerial Systems, 2024




Source: Frost & Sullivan

# Frost Radar™
# Competitive Environment

- The Israeli C-UAS defense market is saturated, mature, and competitive. The number of vendors has exploded since 2021. In an industry of more than 20 local participants, Frost & Sullivan has identified 10 young companies developing applications and features to combat emerging low-altitude aerial threats alongside traditional defense integrators such as Rafael and its subsidiary ELTA Systems. Frost & Sullivan believes the market will become even more competitive in the next few years. The landscape will change regarding both go-to-market strategies and technological innovation as the IDF, US Army, and other Western militaries continue to test the technologies. This Frost RadarTM does not cover leading defense manufacturers or Tier I suppliers in the local industry simply because they are measured at different scales.
- Frost & Sullivan expects larger vendors to remain competitive through collaborations and integrations of innovative solutions onto prime C-UAS architectures.
- Sentrycs secured the top position on the Innovation Index for its rich C-UAS portfolio that includes threat mitigation solutions and enhanced situational awareness capabilities. The company is relentlessly in pursuit of innovation, which is evident in the fact that 67% of its budget is allocated for R&D—the highest percentage among profiled companies.

Source: Frost & Sullivan

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# Companies to Action:

## Companies to Be Considered First for Investment, Partnerships, or Benchmarking

# Company to Action: Sentrycs

## Innovation

- Sentrycs's adaptive C-UAS technology is based on advanced RF protocol analytics, machine learning, and automated research processes, optimizing its time to market and ensuring its drone protocol library is always up to date.

- Sentrycs's autonomous solutions detect, track, identify, and mitigate a wide range of commercial drones in a primarily passive mode without causing false alerts, disruption, or collateral damage, ensuring robust protection. The system is not sensitive to drones' proximity to each other (including altitude and speed) and targets drones even if they are spoofed.

- The company's products are quick and easy to set up. They can be deployed stand-alone or integrated with any relevant hardware and control solution, fitting all tactical military or civilian applications with modular portable, vehicle-mounted, and stationary configurations. The cost-effective and low-power solution requires minimal training and can operate autonomously 24/7.

- The company's best-in-class technology, developed by top RF cyber researchers, is the bedrock of its vision to become a safe unmanned traffic management enabler.

Source: Frost & Sullivan

# Company to Action: Sentrycs

## Innovation

- Sentrycs is exploring machine-learning algorithms for real-time drone threat assessment. By analyzing vast amounts of data collected from sensors and other sources, AI-powered systems can identify patterns, anomalies, and potential threats more efficiently, enabling proactive response measures.
- The company allocates 67% of its annual budget to R&D, which has made the DDR&D take notice. The IDF and other governmental agencies are already deploying the company’s products as a part of their C-UAS defensive posture to protect sensitive sites.

Source: Frost & Sullivan

# Company to Action: Sentrycs

## Growth

- Founded in 2017, Sentrycs is considered an industry leader in integrated C-UAS solutions, supported by field-proven, custom-built technology for various operational environments, including CNI and large events. The company has offices in Israel and the United States (New York-based TREO Asset Management acquired it in 2022).
- It enjoys attention from Israeli governmental entities because it collaborates with leading Israeli defense manufacturers and its ongoing engagement with the IDF.
- Sentrycs passed the FAA drone detection and mitigation testing in Atlantic City International Airport to identify and subdue hostile UAS that an airport encounters. It also participated in US Department of Homeland Security anti-swarm tests in late 2023, demonstrating its ability to simultaneously detect multiple drones operating at different ranges, altitudes, and speeds. The company was recently included in the prestigious UK National Protective Security Authority Catalogue of Security Equipment.

Source: Frost & Sullivan

# Company to Action: Sentrycs

## Growth

- The company is accelerating its growth in Europe, protecting various military bases and sensitive sites. It recently participated in the EU and Interpol program Courageous to set standards for C-UAS testing and evaluation.

Source: Frost & Sullivan

# Company to Action: Sentrycs

## Frost Perspective

- The company is well-positioned in the growing C-UAS market with its focus on flexible and integrated solutions tailored to meet customers' specific needs. It aligns well with customization, optimization, and scalability trends. This approach, combined with an emphasis on collaboration and seamless integration with existing architectures, demonstrates a long-term vision to automate the entire C-UAS process with adjusted comprehensive and quick drone protocol coverage, Including the most encountered types of drones, such as DJI's most updated firmware, which is considered as the prime current commodity hostile drone available in the market. As such, the company's products can further accurate identification, including drone serial numbers.

- The product's agility (lightweight, portable, and rapid deployment) is a game changer allowing smooth and rapid adjustments to end-user needs. Its enhanced C2 posture demonstrates maximum operational flexibility (no-fly-zone definitions, allowed and blocked UAV lists, and rapid integration with third-party C2s and advanced multisensor display) that can easily be integrated into C-UAS end-user architecture.

Source: Frost & Sullivan

# Company to Action: Sentrycs

## Frost Perspective

- Sentrycs recognizes the importance of strategic partnerships and alliances to bolster capabilities and expand reach. Collaborations with Mahindra Defense, High Lander, the Third Eye, X-Tend, government agencies, and industry organizations give it complementary expertise, resources, and networks.

- The company's limited global footprint constrains its growth potential and access to new markets. To address this challenge, it should explore additional joint ventures with defense OEMs, which could be particularly beneficial if structured around a transfer-of-technology business model, enabling the company to expand its reach and technological capabilities simultaneously.

Source: Frost & Sullivan

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# Key Takeaways

# Key Takeaways

1

The IDF defines the C-UAS domain as the new operational aerial layer that requires a dedicated solution to Israel's most advanced air defense architecture in light of the quantum leap in the Iranian aerial threat, backed by extensive operational experience.

2

The IDF is undergoing a significant shift in its C-UAS strategy, moving away from systems designed to counter individual aerial threats and toward more comprehensive solutions capable of addressing drone swarm threats. As such, there is a focus on creating a reliable and comprehensive "sky image." This involves fusing data from multiple sensors to provide a clear, real-time airspace picture. The IDF views C-UAS platforms as complex systems integrating multiple advanced mitigation capabilities.

3

Israel enjoys an innovative military C-UAS industry and is considered a world leader. The domestic defense ecosystem offers tremendous collaboration opportunities for global players looking to export their products and catalyze arms sales.

Source: Frost & Sullivan

# Key Takeaways

4

Military end users seek comprehensive solutions that are flexible and easy to integrate and deploy. Demand is increasing for C-UAS-as-a-service, which includes C2 sensors, IT integration, training, and system maintenance. The as-a-service model is a US DoD priority; in Israel, the leading vendor to convert this demand into practice is Rafael, as demonstrated by its complete kit of services for the Drone Dome system. This trend is relevant for smaller vendors, including D-Fend, Sentrycs, and Smart Shooter.

Source: Frost & Sullivan

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# Frost Radar™ Analytics

# Frost Radar™: Benchmarking Future Growth Potential

## 2 Major Indices, 10 Analytical Ingredients, 1 Platform

**VERTICAL AXIS**

**Growth Index (GI)** is a measure of a company's growth performance and track record, along with its ability to develop and execute a fully aligned growth strategy and vision; a robust growth pipeline system; and effective market, competitor, and end-user focused sales and marketing strategies.

**GROWTH INDEX ELEMENTS**

- **GI1: MARKET SHARE (PREVIOUS 3 YEARS)**
  This is a comparison of a company's market share relative to its competitors in a given market space for the previous 3 years.
- **GI2: REVENUE GROWTH (PREVIOUS 3 YEARS)**
  This is a look at a company's revenue growth rate for the previous 3 years in the market/industry/category that forms the context for the given Frost Radar™.
- **GI3: GROWTH PIPELINE**
  This is an evaluation of the strength and leverage of a company's growth pipeline system to continuously capture, analyze, and prioritize its universe of growth opportunities.
- **GI4: VISION AND STRATEGY**
  This is an assessment of how well a company's growth strategy is aligned with its vision. Are the investments that a company is making in new products and markets consistent with the stated vision?
- **GI5: SALES AND MARKETING**
- This is a measure of the effectiveness of a company's sales and marketing efforts in helping it drive demand and achieve its growth objectives.

# Frost Radar™: Benchmarking Future Growth Potential

## 2 Major Indices, 10 Analytical Ingredients, 1 Platform

**HORIZONTAL AXIS**

**Innovation Index (II)** is a measure of a company's ability to develop products/services/solutions (with a clear understanding of disruptive Mega Trends) that are globally applicable, are able to evolve and expand to serve multiple markets, and are aligned to customers' changing needs.

### INNOVATION INDEX ELEMENTS

- **II1: INNOVATION SCALABILITY**
  This determines whether an organization's innovations are globally scalable and applicable in both developing and mature markets, and also in adjacent and non-adjacent industry verticals.
- **II2: RESEARCH AND DEVELOPMENT**
  This is a measure of the efficacy of a company's R&D strategy, as determined by the size of its R&D investment and how it feeds the innovation pipeline.
- **II3: PRODUCT PORTFOLIO**
  This is a measure of a company's product portfolio, focusing on the relative contribution of new products to its annual revenue.
- **II4: MEGA TRENDS LEVERAGE**
  This is an assessment of a company's proactive leverage of evolving, long-term opportunities and new business models, as the foundation of its innovation pipeline. An explanation of Mega Trends can be found here.
- **II5: CUSTOMER ALIGNMENT**
  This evaluates the applicability of a company's products/services/solutions to current and potential customers, as well as how its innovation strategy is influenced by evolving customer needs.

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