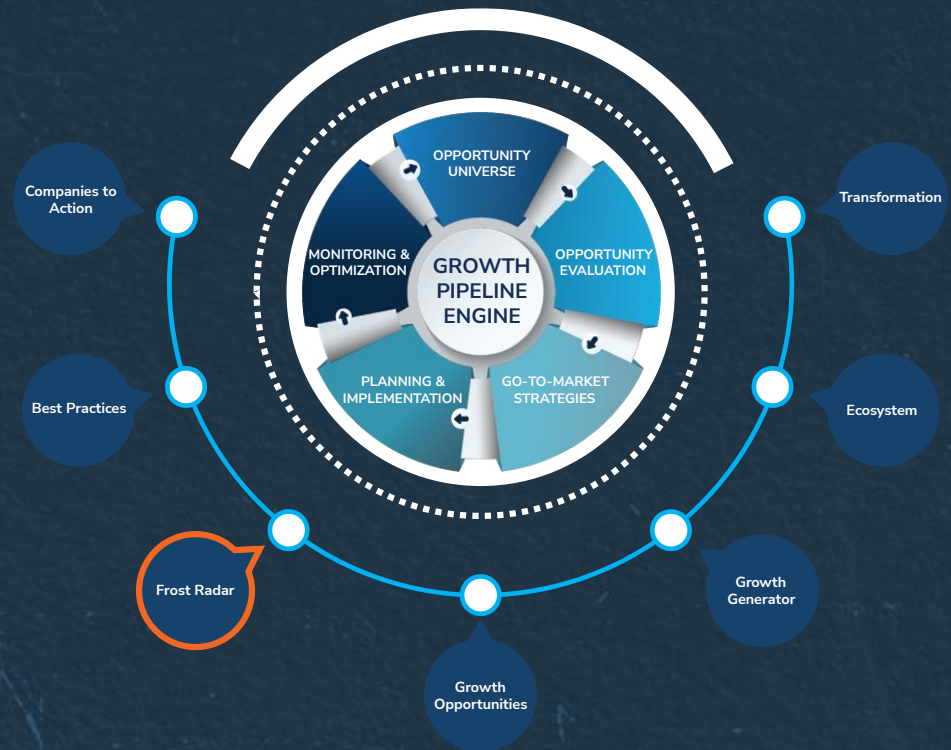


# Frost Radar™: Top IoT Innovators in Smart Building Sensors, 2025

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



PFSZ-19  
April 2025

# Contents

Section	Slide Number
<a href="#">Strategic Imperative and Growth Environment</a>	4
<a href="#">Frost Radar™: Top IoT Innovators in Smart Building Sensors, 2025</a>	9
<a href="#">Frost Radar™: Companies to Action</a>	14
• <a href="#">Adeunis</a>	15
• <a href="#">Airthings</a>	19
• <a href="#">Aranet</a>	24
• <a href="#">Elektroniksystem i Umeå (ELSYS)</a>	28
• <a href="#">Milesight</a>	31
• <a href="#">Pelican Wireless</a>	40
• <a href="#">Pressac Communications</a>	45
• <a href="#">TEKTELIC</a>	50
• <a href="#">VergeSense</a>	52
• <a href="#">Xovis</a>	59

# Contents (continued)

Section	Slide Number
<a href="#">Best Practices &amp; Growth Opportunities</a>	64
<a href="#">Frost Radar™ Analytics</a>	67
<a href="#">Next Steps: Leveraging the Frost Radar™ to Empower Key Stakeholders</a>	70
• <a href="#">Significance of Being on the Frost Radar™</a>	71
• <a href="#">CEO's Growth Team</a>	72
• <a href="#">Investors</a>	73
• <a href="#">Customers</a>	74
• <a href="#">Board of Directors</a>	75
• <a href="#">Next Steps</a>	76
<a href="#">Legal Disclaimer</a>	77

# Strategic Imperative and Growth Environment



# Strategic Imperative

Frost & Sullivan has identified eight Strategic Imperatives creating pressure on growth: Transformative Megatrends, Customer Value Chain Compression, Innovative Business Models, Internal Challenges, Industry Convergence, Competitive Intensity, Disruptive Technologies, and Geopolitical Chaos. The three most influential in the smart building sensors market are:

- **Disruptive Technologies:** Emerging companies in the smart building sensor market must leverage disruptive technologies such as IoT, machine learning and multifunctional smart sensors to gain a competitive edge. They gather a continuous stream of data offering real-time insights into building operations, enabling building energy management, smart lighting control, power level monitoring, occupancy tracking, people flow and fault detection of building systems, reducing operational costs and improving space utilization and occupant comfort. This will further allow customers to incorporate advanced applications such as digital twins to test building systems' efficiency and anticipate failures before they occur. Companies that develop IoT-enabled, self-learning, adaptive sensors capable of dynamic adjustments in the built environment will have a technological advantage in this competitive landscape.
- **Competitive Intensity:** Emerging players can provide next-generation, IoT-enabled smart building sensors combined with SaaS models, gaining recurring revenue through cloud-based data intelligence and monitoring platforms. Additionally, data monetisation presents a lucrative opportunity, where anonymised insights on occupancy trends, energy consumption, and environmental factors can be sold to real estate developers, energy firms, and facility managers. Interoperability with existing building management and automation systems is crucial to ensuring widespread adoption. By prioritising sensor intelligence, emerging firms can not only differentiate their offerings but also unlock new revenue streams that extend beyond hardware sales.

## Strategic Imperative (Continued)

- **Industry Convergence:** The future of smart building sensors lies in industry convergence, where sensors are no longer standalone devices but integral components of a networked ecosystem. To succeed, emerging innovators must collaborate with architecture, engineering, and construction firms to embed next-generation sensor technologies, such as dual-technology occupancy detection (PIR + ultrasonic), AI-driven air quality monitors, and self-powered wireless sensors, directly into building designs. This integration enables cross-functional applications such as automated HVAC-occupancy synchronisation, predictive maintenance for energy systems, and adaptive safety protocols. The growing push for sustainable buildings and net-zero emissions mandates IoT-enabled sensors for monitoring energy use, carbon emissions, and indoor environmental quality. Government-backed smart city initiatives also present an opportunity for companies to provide compliance-driven sensor solutions, such as LoRaWAN-enabled devices for large-scale infrastructure monitoring. By prioritising sensor interoperability and edge processing capability, companies can deliver scalable, hardware-agnostic solutions that manage the entire building lifecycle. Emerging companies should differentiate through sensor intelligence and sustainability-driven designs to position themselves as indispensable partners in the future of smart building management.

# Growth Environment

- The IoT-enabled smart building sensors market is poised for accelerated growth, driven by transformative technologies, sustainability imperatives, and data-driven automation. Emerging companies are leveraging AI, machine learning, and IoT to develop next-generation smart building sensors that enhance operational efficiency, predictive maintenance, and occupant well-being. The convergence of sensor fusion, cloud-based analytics and AI-driven optimisation is enabling buildings to transition from reactive to proactive management, reducing operational costs and improving real-time decision-making. Investment in digitized maintenance capabilities is creating new revenue streams for vendors, as predictive analytics and performance optimisation services become premium offerings for large-scale buildings exceeding 50,000 square feet. The rising emphasis on healthy buildings, particularly in Asia, North America, and Europe, is accelerating demand for IAQ monitoring, compliance tracking, and smart HVAC solutions, with LEED, WELL, Fitwel, and RESET certifications gaining prominence.
- With global sustainability goals and decarbonization mandates intensifying, climate-smart solutions are a critical driver of smart building sensor adoption. Energy-efficient, low-power wireless sensors embedded with machine learning algorithms are empowering facility managers to achieve real-time energy optimization and compliance monitoring, while integrated smart building platforms are ensuring seamless data exchange across disparate building systems. Meanwhile, venture capital and corporate investments in smart building start-ups continue to surge, with cumulative funding reaching \$37.5 billion from 2020 to 2024, indicating a strong appetite for AI-driven HVAC optimisation, building energy management, IoT platforms, digital twins and more. Frost & Sullivan estimates that the global market for smart building solutions is projected to reach \$50.99 billion by 2028, with a cumulative annual growth rate (CAGR) of 26.0% starting from 2024.
- Frost & Sullivan studies related to this independent analysis:
  - [Building Energy Management System Market, Global, 2024–2030](#)
  - [Top 50 Start-ups Advancing Decarbonization and Digitalization in the Global Homes & Buildings Industry](#)
  - [Top 5 Growth Opportunities in Smart Buildings, 2025](#)

## Growth Environment (continued)

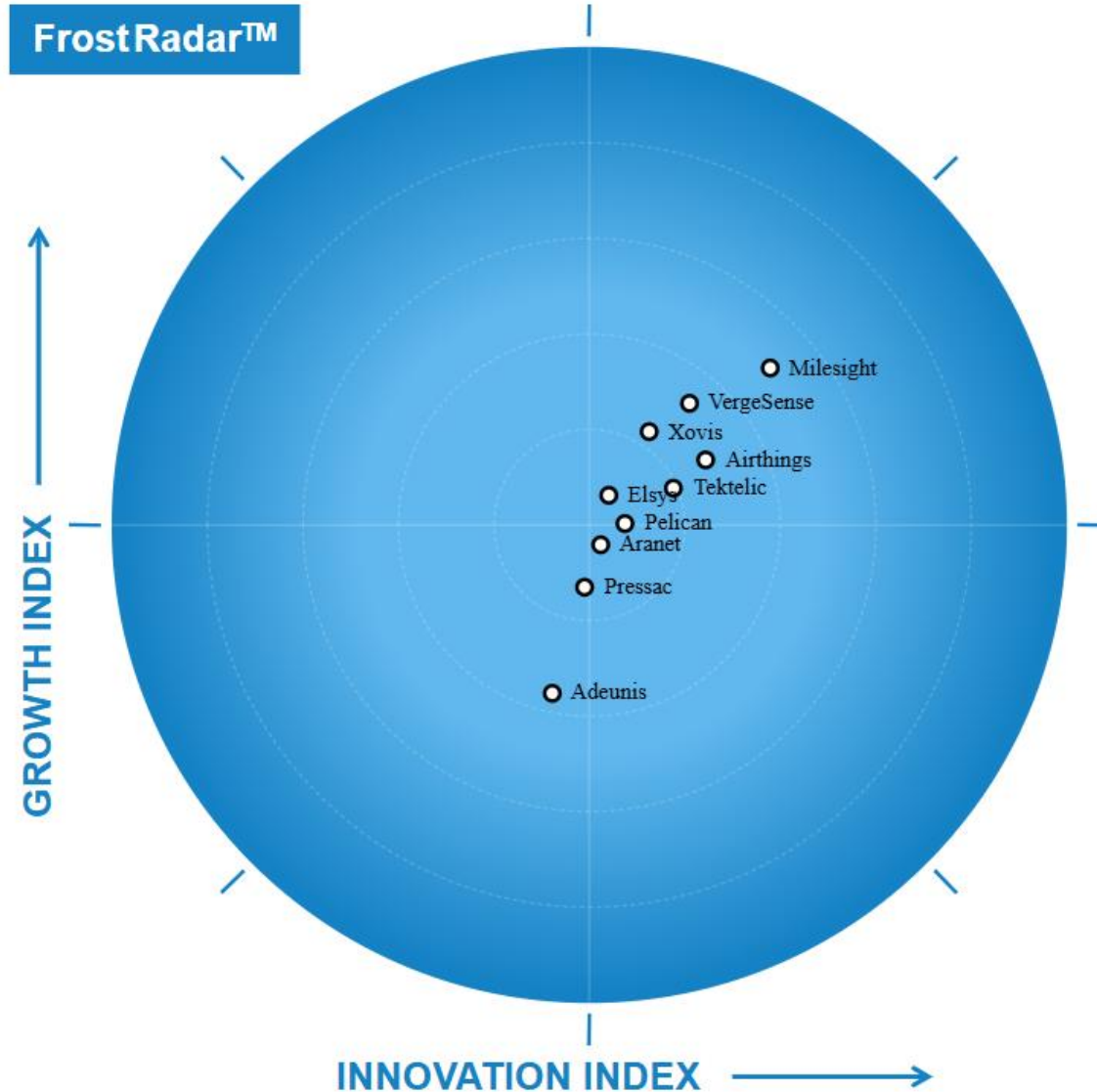
- This Frost Radar™ analyzes top IoT innovators in the smart building sensors market, focusing on three main categories: general smart building sensor providers catering to multiple applications, indoor air quality (IAQ) specialists and people flow and occupancy intelligence specialists. Each category serves a distinct yet interconnected function within smart buildings, contributing to enhancing energy and operational efficiency, optimising building management, and improving occupant well-being. By benchmarking these companies, we aim to assess their market positioning, product capabilities, growth strategies, and how they address evolving industry needs.
- Smart buildings increasingly rely on IoT sensors to optimise energy use, ensure healthy indoor environments, and enhance space utilisation. General smart building sensors provide broad environmental monitoring, covering parameters like temperature, humidity, motion, and energy consumption. IAQ specialists focus on air quality metrics such as CO<sub>2</sub>, VOCs, HCHO and particulate matter, critical for occupant health and regulatory compliance. Meanwhile, people flow, and occupancy intelligence solutions enhance space efficiency and workforce management by tracking movement patterns and real-time occupancy. These applications are fundamental to creating sustainable, cost-effective, and data-driven smart buildings. The companies selected for benchmarking represent leading innovators within their respective domains, offering cutting-edge solutions that define the future of smart buildings.

Competitors	Applications
Adeunis	Smart Building (Indoor climate control and IAQ)
Airthings	IAQ
Aranet	IAQ
ELSYS	Smart Building (Indoor climate control, IAQ and workplace management)
Milesight	Smart Building (Indoor climate control, IAQ, people counting, workplace management, and more) and video surveillance
TEKTELIC	Smart Building (Indoor climate, IAQ, asset tracking and more)
Pelican Wireless	Smart Building (Indoor climate control)
Pressac Communications	Smart Building (Indoor climate control, workplace management, IAQ)
Xovis	People Flow
VergeSense	Occupancy Intelligence

# Frost Radar™: Top IoT Innovators in Smart Building Sensors, 2025



# Frost Radar™: Top IoT Innovators in Smart Building Sensors, 2025



# Frost Radar™ Competitive Environment

- Airthings, Milesight, VergeSense, Xovis and Tektelic emerged among the top five companies in the Frost Radar™ Innovation and Growth Indexes. Milesight and VergeSense are the only companies to feature among the top three leaders in the Frost Radar™ Innovation and Growth Indexes exhibiting significant market growth from 2021 to 2024.
- Milesight emerged as a top performer in Frost Radar™ Innovation and Growth Indexes for the smart building sensors market, achieving a remarkable cumulative annual growth rate (CAGR) of 74.8% (2021-2024), including its IoT and CCTV business unit. Its strong R&D investment and commitment to launching at least eight new sensors annually underscores its technological strength and agility in addressing emerging challenges. Milesight's strategic focus on Europe, the Americas, and Asia, along with its alignment with sustainability trends and global smart building needs, reinforces its leadership in the market. With continued expansion into smart cities and retail applications, Milesight is poised for sustained success and market leadership.
- VergeSense emerged as a second-highest performer in Frost Radar™ Growth Index offering advanced occupancy intelligence for commercial real estate, driven by low-power wireless sensors with computer vision capabilities and a strong focus on customer needs. The company achieved an impressive 35% CAGR since 2021, supported by \$60M (\$80M in total) in Series C equity financing and substantial investment in R&D, sales, and marketing. VergeSense's upcoming launch of sensors with an industry-first 10-year battery life in April 2025 reflects its commitment to technological advancement and cost-efficiency for customers, particularly in flexible workspaces and hybrid office environments. By enhancing its product portfolio with advanced occupancy analytics, such as desk utilisation insights, live person count, dwell time tracking, and heat mapping visualisation, VergeSense is empowering customers to optimize space utilization effectively while offering scalable, low-maintenance solutions that address the evolving demands of modern commercial real estate.

## Frost Radar™ Competitive Environment (Continued)

- Airthings emerged as the second-highest performer in the Frost Radar™ Innovation Index. In 2024, the company reported revenues of \$38.5 million, reflecting a modest increase of 5% from the previous year. The Consumer segment experienced robust growth, with revenues reaching \$7.9 million in Q4, up 12% year-over-year, and over 320,000 consumer devices shipped throughout the year, marking a 40% increase. This surge was driven by heightened consumer health awareness and the successful launch of innovative products. At CES 2025, Airthings continued its innovation trajectory by launching the Corentium Home 2, an advanced digital radon detector featuring improved sensor technology and smart capabilities. Additionally, in 2024, the company unveiled Wave Enhance, a compact, battery-operated indoor air quality monitor tailored for bedrooms, providing insights into sleep conditions and overall health optimisation. These product launches underscore Airthings' commitment to innovation and meeting the growing demand for indoor air quality solutions. The company aims to become EBITDA-positive in the second half of 2025 and for the full year 2026, leveraging its strong consumer base and innovative product lineup to drive future growth.
- Xovis is positioned among the top three in the Frost Radar™ Growth Index, exhibiting above-average market growth from 2021 to 2024 and continuous investment in cutting-edge technologies. Xovis, a transformative innovator in people flow management and behaviour analytics, continues to redefine how businesses leverage real-time data to optimise operations and improve experiences. With over 600,000 3D stereovision sensors deployed globally across airports, retail spaces, smart buildings, and public transportation hubs, Xovis has established itself as a pioneer in precision analytics, privacy-compliant solutions, and AI-powered features since its founding in 2008. The company's Passenger Flow Management System has become the gold standard for airports, deployed in over 120 terminals enabling proactive decision-making and long-term capacity planning. With a customer-centric approach and a one-stop-shop model for implementation and support, Xovis combines hardware and software solutions to deliver transformative results.

## Frost Radar™ Competitive Environment (continued)

- TEKTELIC offers LoRaWAN® IoT gateways, sensors, and end-to-end solutions, excelling in wireless communication hardware and software since 2009. The company has built a strong portfolio of devices, applications, and customized IoT solutions for industry verticals like smart buildings, healthcare, and asset tracking. The company achieved a key milestone of acquiring AWS IoT Core for LoRaWAN hardware qualification, allowing seamless enterprise device integration without a dedicated network server. In 2024, TEKTELIC expanded its innovation efforts through a strategic partnership with KaaloT, enabling integrated IoT ecosystems, and continued to enhance smart building solutions with advanced environmental monitoring devices. As demand for IoT-driven efficiency grows, TEKTELIC remains at the forefront, delivering scalable and cutting-edge IoT solutions to optimise operational performance across industries.
- Other notable Frost Radar™ participants that exhibited solid performance in the Innovation and Growth Indexes are Elektroniksystem i Umeå AB (ELSYS) and Pelican. Aranet specialises in environmental monitoring where its innovation pace remains moderate, and expanding beyond its core markets will be crucial for sustained growth. Pelican delivers efficient wireless HVAC control solutions, yet accelerating cloud-based features and new business model adoption will be key to strengthening its market position. Pressac Communications excels in interoperable wireless sensors for energy, environment, and occupancy monitoring, but its international scalability remains an untapped opportunity. Adeunis focuses on wireless sensors and connectivity solutions for smart buildings, cities and industries but faces challenges in revenue consistency due to reliance on developed core markets. ELSYS manufacture IoT sensors for smart buildings, cities, and industries, focusing on indoor climate control and energy efficiency, though its limited market diversification may hinder broader adoption. While each of these companies demonstrates promise, addressing their respective challenges and capitalizing on emerging opportunities will determine their long-term competitive standing.

# Frost Radar™: Companies to Action



# Adeunis

## INNOVATION

- Adeunis specialises in connected sensors that enable real-time monitoring of energy performance, operational efficiency, and indoor comfort. Their sensors monitor energy consumption, detect inefficiencies, and support predictive maintenance for mainly HVAC systems, reducing costs and downtime. By providing real-time data on air quality, temperature, and humidity, they help optimise building operations while ensuring compliance with energy regulations. Their portfolio includes LoRaWAN, Sigfox, NB-IoT, and LTE-M-compatible sensors, ensuring broad connectivity across different IoT ecosystems. Key products such as Pulse (for meter readings), Comfort & Breadth (for air quality monitoring), Dry Contacts (for relay control), and many more sensors to measure different parameters in smart buildings demonstrate a strong alignment with global energy efficiency and building automation trends.
- Adeunis continuously enhances its solutions to improve ease of deployment and data accuracy. Innovations like the IoT Configurator and KARE platform allow businesses to remotely configure and monitor their sensors, reducing setup time and increasing operational efficiency. Additionally, the company's global sensor compatibility strategy ensures that their solutions are adaptable across diverse markets, aligning with the growing adoption of IoT in smart buildings worldwide.
- By prioritizing customer-centric innovation, Adeunis ensures that its offerings address key market needs in energy conservation, predictive maintenance, and environmental sustainability. Their continued investment in R&D, software integration, and expanded connectivity options strengthens its competitive edge in the smart building IoT landscape, enabling it to differentiate itself and drive greater market adoption.

# Adeunis (continued)

## GROWTH

- Adeunis continues to expand its footprint in the smart building IoT sensors market, focusing on energy efficiency, maintenance, and occupant comfort. The company is in the early growth phase with usual challenges but exhibited strong sales in France and increasing international adoption. Adeunis is actively scaling its solutions by ensuring compatibility with global connectivity standards such as LoRaWAN, Sigfox, and NB-IoT, making its products accessible across Europe, the Americas, and Asia-Pacific.
- The company's vision and strategy revolve around driving digital transformation in building management through IoT-enabled building maintenance and energy monitoring solutions. Adeunis aligns with key energy efficiency regulations, such as France's Tertiary and BACS decrees, positioning itself as a trusted partner for businesses looking to meet sustainability goals. Its increasing R&D focus ensures that solutions remain cutting-edge, with innovations like the KARE platform and IoT Configurator, which simplify sensor deployment and data analysis.
- The success of IoT in energy management is exemplified by Berger-Levrault, a French software publisher that implemented an AI/IoT platform across its office buildings in Labège, Limonest, and Villeneuve-sur-Lot. Facing the challenge of controlling electricity consumption, reducing energy costs, and improving employee comfort, Berger-Levrault deployed Adeunis's IoT sensors to monitor temperature, humidity, CO2 levels, and energy usage in real-time. This initiative provided valuable insights into building performance, allowing the company to make data-driven adjustments to optimize energy use and enhance workplace conditions.

## Adeunis (continued)

### GROWTH

- The results were significant, demonstrating the effectiveness of IoT-driven energy optimization. The company achieved a 7% reduction in electricity consumption, which translated to 4.2 tonnes of CO2 emissions avoided. Over four months, optimised heating settings contributed to an impressive 24% energy savings, while targeted adjustments and system repairs led to an additional 5% reduction in electricity usage within just two months. Financially, the initiative delivered rapid returns, with an internal rate of return of €8,350 in just six weeks, surpassing the estimated monthly investment of €6,000.
- Beyond cost savings, the deployment of IoT sensors enabled Berger-Levrault to proactively identify malfunctions and enhance occupant comfort, reinforcing the long-term value of data-driven building management. Encouraged by these results, the company is planning to expand its IoT deployment across additional locations, aiming to further optimize energy consumption, streamline operations, and improve employee working conditions.
- The Berger-Levrault case study illustrates the real-world impact of IoT-powered smart building solutions, reinforcing Adeunis's growth potential. By providing businesses with the tools to reduce costs, improve efficiency, and meet sustainability targets, Adeunis is well-positioned to expand its market share and drive further innovation in smart building management.

# Adeunis (continued)

## FROST PERSPECTIVE

- Adeunis has positioned itself as a key enabler of smart building IoT solutions, focusing on energy efficiency, operational optimization, and occupant comfort. By leveraging advanced IoT sensors, real-time analytics, and predictive maintenance capabilities, the company plays a crucial role in helping businesses meet sustainability targets and comply with stringent energy regulations like the Tertiary and BACS decrees in France. However, despite its innovative solutions and growing market presence, Adeunis faces several challenges that could impact its long-term growth and competitiveness.
- One of the key challenges is market differentiation in an increasingly competitive IoT landscape. While Adeunis offers a comprehensive suite of solutions, the market is populated with established technology providers that bring more extensive ecosystems and broader service offerings. To strengthen its positioning, Adeunis should focus on enhancing its value proposition through continuous innovation both on the hardware and business models, seamless software integration, and tailored customer solutions. Expanding its partnership network with system integrators, energy consultants and other OEM partners can further enhance its market reach.
- Another critical area of improvement is scalability and international expansion. While Adeunis has demonstrated strong performance in France, global adoption remains a key growth driver. Ensuring product compatibility with emerging connectivity standards like 5G IoT and expanding into high-growth regions including Asia-Pacific will be vital for sustaining momentum.
- From a financial perspective, Adeunis has shown resilience, but sustained growth requires a stronger emphasis on recurring revenue models. Shifting from a purely hardware-driven approach to a more subscription-based software and analytics model can help improve revenue predictability and long-term customer retention. Offering value-added services such as AI-driven energy forecasting, automated regulatory compliance reporting, can further differentiate Adeunis in the market.

# Airthings

## INNOVATION

- Airthings emerged as the second-highest performer in the Frost Radar™ Innovation Index, as the company has consistently pushed the boundaries of innovation. The company's product ecosystem includes air quality monitors, smart air purifiers, and software solutions designed for homeowners, businesses, and professionals. At the core of Airthings' technology is its fully wireless, multi-sensor IAQ monitoring devices, which provide real-time data and actionable insights through the Airthings Dashboard. The platform enables users to monitor, analyse, customise, and optimise indoor air conditions while integrating seamlessly with existing Building Management Systems (BMS) and Building Automation Systems (BAS) for smarter decision-making.
- Airthings has continuously enhanced its product offerings, expanding from radon detection to a comprehensive suite that measures 13 air quality factors, making it one of the most advanced solutions in the market. The company's commitment to sustainability is evident through its Energy Efficiency Toolkit, with customers reporting 20% to 30% savings on energy consumption. The recent launches of Renew, Airthings' first smart air purifier and Corentium Home 2, next generation digital Radon detector, further cements its position as a holistic IAQ solutions provider, addressing air quality concerns while reinforcing its mission to empower the world to breathe better. Additionally, Airthings' Space Pro indoor air quality monitor became the first product to qualify for the 'Works with WELL' recognition from the International WELL Building Institute, demonstrating its alignment with global health and sustainability standards.

## Airthings (continued)

### INNOVATION

- Cognizant selected Airthings for Business to monitor indoor air quality across its offices after extensive benchmarking. The solution provided real-time data on air quality, improving employee health, workplace transparency, and environmental control. Airthings' innovative offerings along with ease of use, superior data insights, and strong support made it the preferred choice.
- Airthings IAQ solutions contribute to building certifications such as RESET Air, LEED, WELL, BREEAM, and the newly earned SmartScore accreditation, solidifying its role in creating smart, sustainable environments. By leveraging cloud-based analytics and AI-driven insights, Airthings transforms raw air quality data into meaningful actions that improve health, increase productivity, and reduce energy consumption across residential and commercial buildings worldwide.

# Airthings (continued)

## GROWTH

- Airthings emerged as the third-highest performer in the Frost Radar™ Growth Index, as the company has made significant strides in expanding its market presence, leveraging megatrends in health tech, smart homes, sustainability, energy efficiency, and air quality regulations. With over 1 million IAQ monitors sold worldwide and over 100,000 devices installed in 7,000+ buildings, the company is well-positioned for continued growth. The company is addressing an extensive market opportunity, with 376 million residential homes, 130 million offices, and 9 million classrooms across North America and Europe.
- Airthings operates through three core business segments: Consumer, Business, and Professionals. The Consumer segment, which accounted for nearly 80% of total revenue, experienced robust growth of 25%, with consumer device shipments increasing by 40% in 2024. This was supported by strong demand in the US and Canada, as well as a strengthened direct-to-consumer strategy under the Airthings 3.0 roadmap. The Business segment, which provides IAQ solutions to schools, offices, and public buildings, saw a 35% decline in revenue, but showed consistent improvement throughout the year, with revenue growth in the last three quarters of 2024. The Professionals segment, focused on radon detection solutions for home inspectors and radon specialists, remains the smallest but strategically important component of Airthings' portfolio.

## Airthings (continued)

### GROWTH

- Airthings experienced top-line growth but faced margin pressures due to high-velocity sales events, channel mix effects, and promotions, leading to a gross margin decline from 61% to 56%. Operating expenses for 2024 increased 5% YoY to \$30.7 million, primarily due to higher sales and marketing costs. However, the company successfully implemented cost-control measures, reducing personnel costs by 7% and ending 2024 with 106 full-time employees compared to 132 at the end of Q2. Airthings is focused on margin improvements and cost efficiencies, reiterating its target of achieving positive EBITDA in the second half of 2025 and full-year by 2026.
- Airthings has strengthened its retail and distribution footprint, recently securing a partnership with Target Corp., one of the largest US retailers. This deal will see Target stores and Target.com carrying Airthings' flagship products, including View Plus, Wave Enhance, and Corentium Home 2. The direct-to-consumer push via airthings.com, alongside partnerships with Amazon and large retailers like Home Depot, continues to drive market penetration. In the B2B space, Airthings is focusing on enterprise customers, facility management firms, and HVAC partners to scale its business solutions.

# Airthings (continued)

## FROST PERSPECTIVE

- Airthings' strengths lie in its early-mover advantage, strong market positioning, and ability to capitalise on growing health and energy efficiency trends. The company has successfully transitioned from being a niche radon detection provider to a comprehensive IAQ solutions leader, with a well-diversified portfolio and a strong foundation in North America and Europe.
- However, there are key challenges that need to be addressed. Margin pressure and EBITDA losses indicate that pricing strategy and cost efficiency improvements must be prioritized. The company's decision to narrow its geographic focus and deepen market penetration instead of broad expansion is a strategic move, but execution will be critical to ensure sustainable profitability.
- Airthings must also continue strengthening its recurring revenue streams through software-driven solutions and subscription-based models. Annual recurring revenue (ARR) reached \$4.4 million in 2024, up 6% YoY, but there is significant potential to further expand this revenue stream. By shifting toward a hardware-enabled software model, Airthings can enhance customer lifetime value and create a more predictable revenue base.
- Additionally, the B2B segment presents an untapped growth opportunity. While the Consumer business has been the primary revenue driver, expanding enterprise partnerships and driving adoption among commercial real estate operators, schools, and large corporations can unlock new revenue streams. Airthings has built a strong foundation through innovation, strategic growth initiatives, and a clear market differentiation strategy. However, as the company transitions into its next growth phase, margin improvements, software monetisation, and deeper market penetration in B2B will be crucial to achieving long-term profitability.

# Aranet

## INNOVATION

- Aranet, a key brand under SAF Tehnika Group, drives innovation with its IoT ecosystem for wireless environmental monitoring. Its portfolio features a full suite of sensors, a 3-in-1 base station (gateway, data storage, and web server), and the Aranet Cloud that is developed in-house. Operating on a proprietary radio protocol in the sub-gigahertz ISM 868/920 MHz band with LoRa modulation, Aranet distinguishes itself from LoRaWAN competitors by offering enhanced security, ease of use, and up to 10 years of battery life. The company supports applications including indoor air quality for homes and businesses and wireless monitoring for the retail vertical, measuring temperature, humidity, and CO2 across wide areas. Open integration with third-party sensors via 4-20 mA, Voltage, and Pulse transmitters, plus MQTT, Modbus, and SenML connectivity, strengthens its appeal as a versatile, end-to-end IoT solution.
- Aranet's scalability, while promising, reflects its mid-tier Frost Radar position due to competitive pressures. Leveraging SAF Tehnika's 20+ years of radio engineering expertise, its proprietary ecosystem simplifies large-scale rollouts with quick sensor pairing and a unified software environment, minimising setup complexity compared to LoRaWAN systems. The base station's all-in-one design supports off-grid, secure deployments, yet scaling innovation to rival top-tier competitors requires further momentum. Investments of \$1.38 million in IT infrastructure and research equipment in financial year 2023-2024, alongside \$384,130 in co-financing from Latvia's "LEO Pētījumu centrs" SIA, signal potential for growth.

# Aranet (continued)

## INNOVATION

- R&D underpins Aranet's innovation, drawing on SAF Tehnika's microwave transmission expertise, though its Frost Radar standing indicates a need to accelerate breakthroughs. Development efforts in the financial year 2023-2024 (July 1, 2023, to June 30, 2024) focused on enhancing Aranet's IoT functionality, advancing the Aranet Cloud, and refining product quality while cutting costs. Aranet Cloud's remote data monitoring and customisable dashboards amplify its IoT ecosystem, enabling seamless scalability and real-time insights for diverse applications. Aranet Cloud's Basic and Pro subscriptions unlock recurring revenue potential, diversifying income streams beyond hardware sales to bolster financial stability. Synergies with SAF's microwave equipment and Spectrum Compact analysers broaden its technological base, yet the Group's \$1.38 million R&D investment hasn't yet propelled Aranet past higher-ranked peers. Continued focus on new product frameworks and certifications is vital to elevate its competitive edge in the wireless sensor market.
- Aranet aligns well with customer needs, offering practical solutions and top-tier support, but its Frost Radar position suggests gaps in market perception or reach. Its user-friendly design, requiring minimal expertise for setup, meets demands for efficient, large-scale monitoring, while reliability from SAF's engineering heritage and features like long battery life and secure communication address key client priorities. Dedicated support ensures quick issue resolution, enabling loyalty, yet broader customer traction lags behind leaders.

# Aranet (continued)

## GROWTH

- In the 2023-2024 financial year, the SAF Tehnika Group, which includes Aranet, recorded a net turnover of \$30 million, a 27% drop from the previous year, resulting in losses of \$2.5 million. Exports drove 96.5% of turnover across 88 countries, with the Americas region, a key market for Aranet, contributing 61% despite a 38% decline due to project delays, competitive pricing, and reduced orders after prior-year stockpiling by partners. Provisions for slow-moving inventory increased by \$1.9 million as supply chains stabilised. The loss is deemed temporary, with plans to offset it using retained earnings.
- Aranet's growth vision hinges on expanding its IoT solutions, like the Aranet Radon Plus sensor launched with Radonova, targeting both consumer and business markets to enhance indoor safety and environmental monitoring. The strategy focuses on diversifying its offerings—beyond traditional products under the SAF umbrella—to increase revenue and value, with investments in next-generation prototypes and cost-effective innovations. Success stories, such as Riga First Hospital's 15% energy savings and 27% reduction in sick leave through Aranet sensors, highlight a commitment to impactful, scalable solutions. The aim is to penetrate new export markets, leveraging its global reach while addressing cost pressures to ensure long-term competitiveness.
- Aranet's sales efforts encountered challenges, particularly in the Americas, where turnover fell 38% due to suspended projects and pricing competition, despite handling marketing and logistics through a U.S.-based subsidiary. Europe and CIS sales remained stable, while Asia-Pacific and the Middle East saw a minor revenue dip. With exports to 88 countries, Aranet maintains a strong global presence, but revitalising sales—especially in the Americas—after partner stockpiling and competitive pressures is essential to recover momentum and bolster financial performance.

# Aranet (continued)

## FROST PERSPECTIVE

- Aranet's mid-tier position on the Frost Radar is driven by its innovative IoT ecosystem and proprietary technology. Strengths include a comprehensive product suite—sensors, a multifunctional base station, and Aranet Cloud—offering secure, user-friendly environmental monitoring with up to 10 years of battery life. However, the SAF Tehnika Group's financial loss and significant turnover decline in the recent financial year, especially a sharp drop in the Americas, point to underlying challenges. Intense competition, project delays, and partner stockpiling reveal vulnerabilities in market penetration and sales consistency. The existing Aranet Cloud licensing—offering free Device Management, plus Basic and Pro subscriptions—hints at untapped potential for recurring revenue, though it hasn't yet reversed financial setbacks.
- To address pain points, Aranet should prioritise aggressive market expansion, business model innovation and sales regeneration, especially in the Americas region. Building on its current Aranet Cloud licensing, Aranet should enhance and aggressively promote subscription revenues to stabilise finances. The existing model supports remote data monitoring, alarms, and integrations, but could expand with premium features like multi-site dashboards, next-generation IoT sensors enabling predictive maintenance tailored to industries like healthcare and retail. This shift would reduce reliance on volatile hardware sales, addresses Americas' challenges, and aligns with the market's move toward cloud-based IoT solutions. Optimising inventory, refining production efficiency, and channeling subscription profits into R&D for next-generation IoT sensors could turn Aranet's solid foundation into a competitive edge, driving sustained growth.

# Elektroniksystem i Umeå (ELSYS)

## INNOVATION

- ELSYS is a key provider of LoRaWAN® sensors for smart buildings, cities, and industries, offering cutting-edge solutions for indoor climate control, energy efficiency, and dynamic workplaces. The company's product portfolio aligns with global megatrends in smart infrastructure, digitalisation, and environmental sustainability, ensuring its continued innovation in IoT sensor technology.
- Sustainability is at the heart of ELSYS's innovation strategy. The company recently introduced the ERS Eco and ERS Eco CO<sub>2</sub> sensors, an advanced battery-free product line powered by Epishine's indoor solar cells and housed in biodegradable materials. This industry-first solution eliminates battery waste, reduces maintenance, and lowers CO<sub>2</sub> emissions, setting a new benchmark in sustainable IoT solutions. By integrating innovative energy-harvesting technologies, ELSYS continues redefining eco-friendly sensors.
- ELSYS places a strong emphasis on research and development, continuously advancing energy-efficient sensor designs. The company's latest innovations ensure uninterrupted performance, even in low-light conditions, with sensors operating maintenance-free for 15 to 30 days in darkness. By integrating organic solar cell technology, ELSYS demonstrates a proactive approach to green technology and self-sustaining IoT sensors. Customer alignment is a key focus for ELSYS, ensuring its sensor solutions seamlessly integrate into applications such as air quality monitoring, workplace optimisation, and energy management. With a commitment to high-quality production standards, ELSYS provides reliable, long-lasting, and sustainable sensor solutions that cater to the growing demands of smart building automation and environmentally conscious industries.

# Elektroniksystem i Umeå (ELSYS) (continued)

## GROWTH

- ELSYS has demonstrated strong financial performance and strategic growth, solidifying its position as a leader in LoRaWAN® sensor technology for smart buildings, cities, and industries. Despite a slight decline in turnover in 2024, the company has maintained high profitability with an impressive 45.6% profit margin, showcasing operational efficiency and cost-effectiveness. Additionally, earnings before taxes remained steady at \$3.5 million, growing at a CAGR of 34% since 2021, underlining ELSYS's ability to sustain strong financial health even in fluctuating market conditions.
- ELSYS's growth strategy is reinforced by strategic partnerships and acquisitions. As part of the Bemsig Group under Investment AB Latour, ELSYS has access to broader market opportunities and expanded its portfolio through collaborations with KaaloT and Epishine. These partnerships have enhanced IoT adoption and environmental monitoring solutions, allowing businesses to optimise energy efficiency, automate climate control, and scale IoT infrastructure seamlessly. The recent collaboration with Sally R and Epishine marks another milestone in ELSYS's expansion, introducing self-powered, sustainable sensors that eliminate battery waste and reduce environmental impact.
- ELSYS has successfully positioned itself as an emerging leader in sustainable smart building IoT sensor solutions. Its global reputation for high-quality, EU-manufactured sensors has driven strong customer alignment, attracting major partners and expanding its reach across various sectors. ELSYS is well-positioned to drive continued growth by leveraging its financial strength, strategic partnerships, and commitment to sustainable innovation. The company's focus on scalable IoT solutions, real-time environmental monitoring, and advanced energy-efficient sensors ensures that it remains at the forefront of the smart building and industrial IoT market, paving the way for long-term success.

# Elektroniksystem i Umeå (ELSYS) (continued)

## FROST PERSPECTIVE

- ELSYS's commitment to innovation, sustainability, and strategic partnerships has ensured a solid market presence, but continued growth requires a focus on scalability, competitive differentiation, and market expansion. A key highlight of its strategy is the emphasis on sustainability, particularly with the launch of battery-free, biodegradable sensors, which has set ELSYS apart as a major innovator in environmentally friendly IoT solutions. However, the challenge lies in scaling these solutions effectively while maintaining cost efficiency and broad adoption. Financially, ELSYS has demonstrated strong performance, boasting a 45.6% profitability margin, an impressive 68.3% return on equity, and a solid equity position. Despite this, a decline in turnover indicates the need to reassess market penetration strategies. To drive growth, ELSYS should explore new revenue streams, expand its international footprint, diversify its product offerings, and strengthen direct engagement with enterprise customers, while also optimizing pricing strategies and considering subscription-based models for sensor data services.
- One of the major challenges ELSYS faces is the evolving competitive landscape. As the IoT-enabled devices are increasingly penetrating the built environment, the smart building industry continues to expand, thereby numerous players are entering the market, offering low-cost alternatives and integrated solutions. To maintain its competitive edge, ELSYS must invest further in R&D, enhancing its sensor capabilities, improving connectivity features, and exploring edge-enabled sensors for multiple smart building applications. Strengthening its brand presence through targeted marketing campaigns and thought leadership initiatives will also be crucial in differentiating itself from competitors.

# Milesight

## INNOVATION

- Milesight offers the most comprehensive product portfolio of people-sensing-driven smart IoT solutions, designed for facility management, energy management, and space management. The company provides an extensive array of devices catering to the diverse application needs of buildings, including thermostats, temperature & humidity sensors, environmental sensors, current transformers, workplace sensors, IAQ sensors, gas sensors, IoT display, and people sensing sensors. These solutions enable the development of intelligent building systems that maximise operational efficiency and overall value. For facility management, Milesight's solutions enhance value in areas such as HVAC system performance monitoring and control, circuit operational status monitoring, facility protection, lighting control, metering retrofits, and smart restroom management. For energy management, the company's solutions improve value in areas such as HVAC unified manual dispatch control, HVAC local automation adjustment, HVAC real-time local interaction, energy-saving strategy optimisation, lighting control, and energy monitoring & management. For space management, Milesight solutions augment value in areas such as temperature and humidity control, noise monitoring, E-cigarette/cigarette detection, space optimisation, footfall monitoring, sanitation management, restroom air quality management, user satisfaction management, occupant well-being certification assistance through IAQ monitoring, and sustainability. Integrated with LoRaWAN®, these solutions enhance energy efficiency, space optimisation, and occupant comfort in end-user verticals such as smart offices, retail, schools, universities and public buildings.

## Milesight (continued)

### INNOVATION

- Beyond its hardware innovations, Milesight empowers IoT developers with a suite of cutting-edge tools and platforms, enabling rapid application development with customisable dashboards, data analytics, and flexible integration options, ideal for developers, data engineers, and organisations seeking scalable IoT solutions.
- The Milesight Development Platform streamlines device management with RESTful APIs, Webhooks, and pre-configuration templates, simplifying integration for solution providers and system integrators. For instance, most of the Milesight NFC-enabled sensors can be easily configured via Milesight Toolbox App supporting LoRa-Based D2D communication, which allows quick communication between devices without a LoRaWAN gateway, especially suitable for room control, offering intelligent configuration and monitoring for sensor users—collectively lowering technical barriers and accelerating innovation.
- Milesight’s innovations begin with its robust LoRaWAN gateways, designed to scale effortlessly across diverse scenarios and a global footprint, serving markets in Europe, Asia, the Americas, the Middle East, and Oceania. Offering a range of gateway products for different scenarios, including indoor, outdoor, industrial, and solar-powered options, ensuring adaptability to various environments. Many of these gateways support protocols like BACnet and MQTT, enabling them to capture data from wireless sensors and seamlessly push it to BMS or third-party clouds. Milesight achieves robust compatibility with its ecosystem partner Tridium, breaking down barriers and expanding customer applications through seamless one-stop configuration without extra settings, maintenance-free and low-cost operation even with new device launches, and free support covering the entire Milesight product line.

# Milesight (continued)

## INNOVATION

- The people counting & occupancy detection series has seen 2 or 3 upgrades, driven by market research, industry analysis, and customer feedback, ensuring products evolve with real-world demands. This rigorous process also birthed the AI Stereo Vision People Counter, adding attribute recognition (e.g., gender) to expand application scope. By prioritising environmental adaptability, performing reliably in any lighting condition, and privacy-focused design, Milesight's R&D ensures its solutions outpace traditional systems, delivering cutting-edge technology that aligns with market trends and customer expectations.
- Milesight's innovation is deeply customer-aligned, responding swiftly to specific needs through collaboration and continuous feedback loops. Milesight's products, including temperature and humidity series, IAQ series, people counting and occupancy series and the thermostat series, provide ease of integration and advanced analytics functionalities offering detailed behavioural insights directly address customer demands for efficiency and actionable data. Its privacy-first design meets regulatory and ethical priorities. Features like shopping cart monitoring emerged from smart retail customer input, and regular requirement analysis ensures solutions fit both individual projects and broader market needs. Upgrades to the People Counting series, informed by 2 or 3 rounds of market feedback, exemplify this responsiveness. Supported by a highly responsive technical team, pre-sales solution design, and annual satisfaction surveys, Milesight ensures its products, deployed in regions from Europe to the Americas, deliver practical, positive impacts, such as optimised workplace analytics and smarter building management, all while maintaining seamless integration and customer satisfaction.

## Milesight (continued)

### INNOVATION

- Milesight drives smart building innovation through a robust R&D commitment, investing 12–15% of its annual revenue to develop at least eight new sensors yearly, encompassing hardware advancements and firmware upgrades. Leveraging expertise in wireless sensing technologies (LoRaWAN®, 5G, IoT), the company delivers reliable, energy-efficient solutions for new constructions and retrofits alike. Its sensors enable real-time HVAC-occupancy synchronisation, air quality monitoring, and predictive maintenance. Prioritising interoperability (BACnet, KNX, MQTT, PoE) and sustainability (10-year battery life, recyclable materials), Milesight ensures seamless system integration and supports global net-zero goals with ESG-aligned designs. By blending cutting-edge R&D with practical applications, Milesight leads in smart building retrofits and autonomous building management.
- Built on a foundation of wireless technology with LoRaWAN® as its core, Milesight is broadening its expertise into diverse IoT technology domains. In the realm of traditional Building Management Systems, Milesight is renowned as a leading company adopting LoRaWAN® technology for wireless sensor applications.

# Milesight (continued)

## GROWTH

- Milesight has demonstrated robust financial growth, achieving a compound annual growth rate (CAGR) of 74.8% from 2021 to 2024 in its IoT and CCTV business unit, reflecting its strong market traction and operational success. This impressive growth is underpinned by its expanding presence across key regions, with Europe leading as the largest market, followed by Asia, South America, Oceania, North America, the Middle East, and Africa. Project statistics from 2022 to 2024 highlight this momentum: 2000 projects across seven regions, with Europe accounting for 804 and Asia 408, showcasing a diversified revenue base. Applications driving this growth in smart buildings (1000 projects) include indoor air quality monitoring, energy management, smart retail, office management, HVAC and climate control, restroom management, facility management, leak detection, people counting and others.
- Milesight's vision centres on becoming a global leader in the IoT sensors market, with a strategic focus over the next 3-5 years on the smart building industry, alongside smart cities and smart retail, particularly in people counting and occupancy applications. The growth pipeline leverages its proven product matrix, including sensors like the people counting & occupancy and IAQ sensors, to address evolving market demands for efficiency and sustainability. The company is deepening its European market dominance, its largest revenue contributor, while expanding in high-growth regions. Strategic collaborations, such as with Cumulocity, enhance device interoperability and analytics, targeting smart cities and industrial automation, while the Actility partnership strengthens LoRaWAN® connectivity for scalable deployments. Milesight's channel strategy aims to evolve from distributors to brand agents managing localized services, supported by Authorized Solution Partners (ASPs) who integrate its hardware into vertical solutions, enhancing brand recognition and market penetration.

## Milesight (continued)

### GROWTH

- Milesight's sales and marketing strategies are meticulously aligned annually to maximise regional impact and foster long-term partnerships. In Europe, the focus is on building a robust distribution network, supported by partner marketing initiatives, while in Asia, particularly Singapore and Hong Kong, efforts target solution providers and system integrators to penetrate vertical smart building markets. This tailored approach is evident in project deployments, for instance, 51 smart retail and 47 HVAC projects globally from 2022 to mid-2024. The company's well-designed, lucrative channel and technology partner program is a cornerstone of this strategy, equipping distributors, resellers, solution providers, and system integrators with comprehensive tools, training, and resources to accelerate market entry, boost sales efficiency, and ensure long-term profitability. Partners benefit from many channel supports such as project registration, not-for-resale campaign, channel marketing, enabling seamless cooperation between customers and the distribution network. Marketing support includes co-branded campaigns, technical workshops, and access to big data insights for precise targeting, expanding IoT solutions.
- Milesight's growth is exemplified by impactful case studies across various regions, showcasing the versatility and impact of its products. In Canada, Milesight, with its partner, deployed 47,000 IAQ devices and 2,600 gateways, creating a healthier environment in Canadian schools. In the US, Milesight, with its project partner, deployed VS350 people counters, AM308L IAQ sensors, and GS301 bathroom odour detectors in Jacksonville International Airport, improving occupant health and productivity initiatives. In Europe, Milesight deployed over 3,000 VS133 AI ToF People Counting Sensors and VS135 Ultra ToF People Counters, supporting smart retail management, greatly improving operational efficiency and cost savings.

## Milesight (continued)

### GROWTH

- In Spain, Milesight collaborated with its local partner to deploy 130 AM103L devices in Valencia homes for a smart city project for indoor air quality monitoring and improved occupant health and productivity, while another project in the same region for public institutions and utilities saw the deployment of AM103L IAQ sensors and EM500-CO2 carbon dioxide sensors for similar applications. In Italy, Milesight collaborated with its local partner to deploy 121 UC100 IoT controllers and UG65 LoRaWAN® gateways in 100 residential buildings, targeting energy efficiency, smart building, and smart boiler room applications. In Dubai, Milesight, with its partners, deployed AM319 IAQ sensors in luxury villas, optimising HVAC systems, improving indoor air quality, and enhancing occupant health and productivity. At the NEX Shopping Mall in Singapore, Milesight's partner facilitated the deployment of AM319 IAQ sensors, targeting smart building, smart retail, and facility management applications, enhanced indoor air quality, occupant comfort and energy savings.
- Milesight's strategic partnerships with some of the key partners propel its growth by enhancing interoperability, market reach, and deployment efficiency. Milesight's partnerships with Tridium, Actility, AWS, Cumulocity and Thingsboard have been pivotal in driving IoT innovation, with Actility's ThingPark platform enhancing seamless connectivity and data management through integration with Milesight's LoRaWAN® gateways. Tridium strengthens this ecosystem by ensuring robust compatibility and one-stop configuration, breaking down barriers across Milesight's product line, while AWS provides scalable cloud integration, empowering businesses with advanced data handling and analytics. Additionally, the LoRa Alliance collaboration has propelled LoRaWAN® innovation through device certification, enhancing global IoT deployments. Together, these partnerships expand Milesight's global presence, streamline IoT adoption, and reinforce its leadership in delivering innovative, industry-focused solutions.

## Milesight (continued)

### FROST PERSPECTIVE

- Milesight has solidified its position as a trailblazer in the IoT-enabled smart building sensors market, achieving a remarkable CAGR nearing 74.8% from 2021 to 2024 and executing 2000 projects across seven regions by 2024, with Europe (460 projects in smart buildings) being the key region and smart buildings (1000 projects) as the leading vertical. Its innovative product portfolio delivers high accuracy, privacy-focused solutions, and advanced analytics, as demonstrated in high-impact deployments like equipping 47,000 Canadian classrooms for healthier learning environments and optimising energy use for a Malaysian conglomerate. Strategic partnerships with Tridium, Actility, AWS, Cumulocity, and Thingsboard have enhanced interoperability, scalability, and market reach, while the open-source platform and Milesight Development Platform empower developers and partners globally. By addressing critical challenges like poor indoor air quality, energy inefficiency, and space utilisation, Milesight drives tangible outcomes such as improved occupant comfort, reduced costs, and sustainability, positioning it as a leader in the IoT-enabled smart building sensors market.
- To address challenges and sustain its growth trajectory and leadership position, Milesight should leverage its new big data model initiative of sensing devices, including people counting sensors, with deeper integration to unlock more advanced capabilities like attribute recognition in retail scenarios. This enhancement can mitigate challenges and provide partners and customers with self-trainable, data-driven tools to optimise operations, enhance security, and elevate customer experiences. To overcome scalability and integration hurdles seen in large-scale deployments, Milesight should deepen its channel partner program with region-specific training and support. Additionally, Milesight has made substantial strides in compliance and security, notably achieving GDPR compliant certification. However, as the company expands into privacy-sensitive markets like Europe, it must continue to address compliance and security concerns. This entails ongoing investment in end-to-end encryption and localised data processing, with a focus on enhancing its GDPR-compliant designs.

## Milesight (continued)

### FROST PERSPECTIVE

- Looking ahead, Milesight will continue to enrich its smart building sensors product matrix, further strengthening key product series such as temperature and humidity sensors, indoor air quality monitors, people counting and occupancy solutions, thermostats, and current transformers. Among these, the building IoT gateway stands out as a strategic cornerstone. These offerings are poised to become critical enablers across a wide range of end-user verticals within the smart building ecosystem, reinforcing Milesight's role as a visionary innovator and solidifying its competitive advantage in the global market.

# Pelican Wireless

## INNOVATION

- Pelican Wireless (Pelican) is a key innovator in climate management solutions, holding a mid-tier position on the Frost Radar™ Innovation Index. Pelican disrupts the traditional climate controls market with a robust product portfolio anchored by a virtual climate management platform—one of the first in the U.S. to leverage a wireless mesh network. Its offerings include smart thermostats, sensors, and controllers, paired with the Pelican Connect App, available under a free Basic Subscription that satisfies 95% of customer needs with features like unlimited device integration, real-time control, and usage graphs. Tiered Standard (\$2.99/thermostat/year) and Enhanced (\$3.99/thermostat/year) subscriptions add advanced capabilities such as two-year historical data, multi-user access, and hospitality-focused integrations. This portfolio delivers transparent, energy-efficient solutions, aligning well with enterprise demands for scalability and cost-effective climate control.
- Pelican's innovation is propelled by its wireless mesh network, a self-healing system that ensures seamless scalability across commercial facilities. The network auto-scales as devices are added, auto-routes data for real-time oversight via the Connect App, and auto-connects without complex setup, while auto-healing maintains reliability during disruptions. This adaptability, combined with a SaaS subscription model offering a free first year and affordable subsequent pricing, reflects Pelican's R&D focus on pragmatic, customer-centric solutions. Features like open APIs and utility demand response integration further enhance its mid-tier standing, demonstrating a commitment to flexibility and energy savings that supports its growth in the U.S. and Canadian markets.

## Pelican Wireless (continued)

### INNOVATION

- Security bolsters Pelican's innovation through its C.O.R.E. framework—Create, Organise, Restrict, Encrypt—which provides enterprise-grade protection. C.O.R.E. automates network creation to eliminate errors, organises connections for zero-vulnerability performance, restricts access with an isolated architecture, and encrypts data using 128-bit AES, factory-encoded devices, key rotations, and VPNs. Supported by privatised cloud servers and two-factor authentication, this framework ensures customer trust, a critical factor in its competitive positioning. While Pelican's R&D drives features like performance analytics and after-hours reports to optimise costs and equipment efficiency, its mid-tier ranking suggests room to elevate its innovation scalability and market differentiation. Nonetheless, Pelican's blend of secure, scalable technology and customer-aligned solutions solidifies its role as a dependable contender in climate management.

## Pelican Wireless (continued)

### GROWTH

- Pelican Wireless demonstrates steady growth as a mid-tier player in the smart building sensors market offering indoor climate management solutions, underpinned by a financially sound model serving the U.S. and Canadian markets. The company's customer success is visible through deployments in facilities like Revolution Brewing's Logan Square brewpub in Chicago, where Pelican's solution replaced outdated thermostats, optimizing HVAC in real-time for a 120-person venue, reducing staff workload, and enhancing customer comfort, reflecting cost-saving potential. Strategic partnerships with energy consultants like IdealiMPACT and Nerva Energy further enhance financial growth by enabling zero-capital-expenditure implementations for Texas schools and ministries and establishing Pelican as a key energy management systems provider in Canada, respectively, broadening its revenue streams without heavy upfront investment.
- Pelican's vision and strategy focus on transforming the indoor climate control industry by delivering smart, energy-efficient solutions, a mission reflected in its growing customer base and strategic alliances. Aiming to lead nationally, Pelican serves diverse sectors including education, commercial, religious centres and cities. Software partnerships with Smart Church, Events2HVAC, and InThrMa integrate event scheduling and workflow management, syncing HVAC operations with real-time needs to enhance efficiency and appeal to clients. Collaborations with research bodies like NREL, Lawrence Livermore National Laboratory, and the Western Cooling & Efficiency Center reinforce its strategic commitment to advancing heating, cooling, and energy technologies, positioning Pelican for sustained growth amid competition.

## Pelican Wireless (continued)

### GROWTH

- Pelican's sales and marketing efforts propel its expansion through an effective distributor network and targeted partnerships that amplify its reach. A nationwide distributor program ensures broad deployment, while energy partners like Clearesult and Enbala embed Pelican in utility demand response and efficiency programs, targeting small, medium, and large businesses. By leveraging these relationships and emphasizing proven outcomes, Pelican communicates a compelling value proposition with affordable, scalable climate control with measurable returns. This approach reinforces its mid-tier status, with opportunities to accelerate growth through deeper market penetration and heightened brand recognition.

# Pelican Wireless (continued)

## FROST PERSPECTIVE

- Pelican Wireless secures a mid-tier position on the Frost Radar™ Innovation Index and Frost Radar™ Growth Index, reflecting its strengths as a high-growth indoor climate management solutions provider with a disruptive edge in the U.S. and Canadian markets. Some of its key highlights include its innovative wireless mesh network and C.O.R.E. security framework, flexible SaaS subscription model which delivers scalable, secure, and energy-efficient climate control for enterprises and education.
- Despite its achievements, Pelican faces challenges that limit its ascent to the top tier, including the need for greater market differentiation and broader penetration to rival leading competitors. Pain points such as reliance on a mid-tier pricing strategy and a relatively narrow geographic focus (U.S. and Canada) could hinder scalability against global players. To address these, Pelican should invest in amplifying its marketing to highlight unique value propositions including the auto-scaling mesh network and real-time adaptability through expanded case studies and industry thought leadership. Exploring international markets, refining R&D to outpace competitors in next-generation IoT innovation, and deepening utility partnerships for larger demand response programs could elevate its growth trajectory. By tackling these areas, Pelican can strengthen its market position and transition from a solid mid-tier contender to a top-tier leader.

# Pressac Communications

## INNOVATION

- Pressac Communications is a well-established IoT sensor manufacturer specialising in smart building sensor solutions for commercial and industrial environments. With over 60 years of experience in design and manufacturing, the company provides reliable and scalable sensor technology that helps businesses connect their buildings and equipment to the network in real-time. Pressac collaborates with leading IoT software and services companies to deliver cost-effective solutions that improve efficiency and automation.
- Pressac specialises in a diverse range of smart building sensor technologies, including environmental monitoring, IAQ monitoring, occupancy tracking, and machine energy monitoring. Pressac Communications' EnOcean Wireless Indoor Air Quality Sensor has earned RESET AIR Accredited Certification, making it one of the few devices capable of measuring a wide range of particulate matter (PM1, PM2.5, PM4, PM10). It is also the only sensor of its kind to operate on the EnOcean protocol. Additionally, its occupancy sensors provide privacy-focused, real-time utilisation data, helping businesses optimise workspaces efficiently. Pressac's wireless energy sensors allow businesses to track real-time energy consumption at the circuit, equipment, or board level. They are designed to identify inefficiencies and optimise energy management; these solutions contribute to carbon footprint reduction and cost savings.

# Pressac Communications (continued)

## INNOVATION

- Pressac's in-house design and development team excels in electronics, embedded software, and product engineering. The company employs a tried-and-tested product design process, ensuring compliance with industry standards. A vertically integrated UK-based manufacturing facility allows full control over prototyping, production, and quality assurance, ensuring robust and reliable solutions. The firm's commitment to continuous improvement and sustainability is evident in its solar-powered and low-energy sensor technologies, designed for minimal maintenance and maximum operational efficiency.
- Pressac Communications leverages EnOcean's low-power wireless protocol, enabling license-free data transmission across large-scale smart buildings. This technology ensures seamless interoperability and scalability, making it ideal for environments with thousands of sensors. Operating on internationally approved ISM bands—868 MHz for Europe and China, 902 MHz for North America and Canada, and 928 MHz for Japan—Pressac's solutions deliver secure, real-time sensor data transmission with AES-128 encryption for enhanced cybersecurity. With over 4 million products delivered annually, Pressac's technology is trusted by global enterprises to improve building efficiency, optimise HVAC operations, and enhance occupant well-being.

# Pressac Communications (continued)

## GROWTH

- Pressac Communications has demonstrated strong financial resilience, maintaining its position as a key player in smart building technology despite a slight revenue decrease from \$17.3 million in 2022 to \$16.2 million in 2023. The company remains highly profitable, with a 26% net profit margin, showcasing its efficiency in cost management and operational execution. Notably, operating cash flow grew by 32% to \$4.5 million, indicating robust financial health, while free cash flow surged by 150% to \$3.3 million in 2023, strengthening its ability to reinvest in innovation and strategic expansion.
- Pressac continues to drive innovation through key strategic partnerships. In 2024, the company formed a landmark collaboration with BLDNG.AI, Norway's leading PropTech company, which is part of the Telenor international telecommunications group. This partnership enables large-scale enterprises to digitalize their buildings and business processes, making workplaces more efficient and automated. BLDNG.AI integrates Pressac's wireless smart sensor technology with its intelligent data platform, converting occupancy, air quality, and environmental sensor data into meaningful insights. This collaboration underscores Pressac's commitment to expanding its global footprint and providing data-driven sustainability solutions.
- Additionally, Pressac's ongoing partnership with Asteria Corporation's Gravio platform strengthens its IoT ecosystem by offering a no-code integration platform that simplifies sensor data accessibility. Another key alliance with Spacewell Energy enhances energy monitoring and sustainability efforts, helping businesses meet net-zero goals through smart energy management.

# Pressac Communications (continued)

## GROWTH

- To support its growing network of partners, Pressac has launched a radio planning and installation training program. This initiative is designed to equip system integrators, third-party installers, and business partners with the expertise needed to plan, install, and optimise wireless sensor deployments. The program offers certification as an approved Pressac installation partner, enhancing credibility while providing direct access to installation leads from Pressac. The training covers radio planning and site surveys, installation best practices, and product training, ensuring that partners are fully equipped to deploy Pressac's solutions effectively. Available both online and on-site, this program reflects Pressac's commitment to industry education and seamless technology implementation.
- The real-world impact of Pressac's smart building solutions is evident through successful case studies. One notable example is its collaboration with Cavendish Engineers, who used Pressac's CO<sub>2</sub> sensors to optimise energy efficiency in British Land's high-profile London office portfolio. This resulted in a 42% reduction in air handling energy use, a 15% reduction in gas consumption, and a 10% reduction in electricity consumption. The project earned the CIBSE Building Performance Award for Best Energy Management Initiative, setting a benchmark for smart building automation. Pressac's solutions are also deployed by global brands such as McDonald's and Heineken, delivering average energy savings of 10% and supporting corporate ESG objectives.

# Pressac Communications (continued)

## FROST PERSPECTIVE

- Pressac Communications has strong growth potential but must enhance its innovation, market expansion, and competitive differentiation to improve its positioning. To remain competitive, Pressac should accelerate next-generation sensing technologies to reduce data errors, expand cloud platform integrations, develop in-house dashboard visualisation platforms for smart building management, and strengthen its partnerships in high-value and high-growth regions such as North America and Asia-Pacific. Additionally, focusing on customisable solutions for specific industries, such as healthcare, retail and manufacturing, could help differentiate its offerings and increase adoption.
- Beyond technological advancements, enhancing market visibility and brand authority is crucial. Pressac should establish itself as a thought leader through industry events, strategic marketing, and ESG-driven smart building solutions. Collaborating with green certification bodies and positioning its products as enablers of net-zero building initiatives can further strengthen its appeal. While the company has a strong foundation with cost-effective solutions and an expanding partner ecosystem, it must take bold steps in R&D, global partnerships, and aggressive go-to-market strategies to establish itself as a dominant force in the smart building sector.

# TEKTELIC

## INNOVATION

- TEKTELIC emerged among the top 5 IoT innovators in the Frost Radar™ Innovation Index due to its leading LoRaWAN®-enabled IoT solutions, offering an extensive portfolio of gateways, sensors, cloud services, and end-to-end applications. With over 15 years in the industry, the company has established itself as a trusted provider of high-quality, scalable, and cost-effective IoT solutions across smart buildings, healthcare, hospitality, smart metering and more.
- The company's product portfolio is designed to enable seamless IoT adoption across various industries. KONA Macro, KONA Enterprise, and KONA Mega gateways provide long-range, reliable connectivity for large-scale deployments, while sensors like BREEZE CO2 Monitor, COMFORT Leak Detection, and SPARROW Indoor Asset Tracker help businesses gather critical environmental and operational data. TEKTELIC's end-to-end IoT solutions simplify implementation, allowing businesses to quickly deploy and scale their networks with minimal technical expertise.
- In smart buildings, TEKTELIC's solutions optimise personnel comfort, safety, and energy efficiency. Devices like the BREEZE Indoor Air Quality Monitor and TEMPO Room Booking Display provide real-time insights into air quality, temperature, and room occupancy, enabling businesses to reduce energy costs and enhance operational efficiency. LoRaWAN®-enabled sensors ensure long-lasting, low-maintenance deployments with battery life extending up to 10 years, making them ideal for large office spaces, hotels, and commercial buildings. For the hospitality sector, TEKTELIC provides environmental monitoring and occupancy solutions that enhance guest comfort and optimize facility management. Sensors like SPARROW Indoor Asset Tracker and BREEZE CO2 Monitor allow hotels to track room occupancy, air quality, and temperature, ensuring optimal conditions for guests.

## TEKTELIC (continued)

### INNOVATION

- In healthcare, TEKTELIC's eBeat and eDoctor wearables monitor up to seven vital signs in real-time, ensuring seamless patient monitoring both in hospitals and home care settings. These devices offer battery life of up to four months, significantly reducing maintenance costs compared to competitors. The use of AES-128 encryption and multi-layer authentication ensures the security of patient data, making TEKTELIC's healthcare solutions a reliable choice for hospitals and telemedicine providers. In smart metering, the sensors are designed for large-scale urban deployments, with LoRaWAN® gateways like KONA Photon (solar-powered) and KONA Mega enabling real-time data collection from gas, water, and electricity meters. These solutions provide deep network coverage, with a range of up to 15 km, making them ideal for citywide utility monitoring.
- TEKTELIC's innovation scalability is driven by its strong R&D division, comprised of highly experienced professionals with expertise in digital signal processing, radio, and system design. The company was one of the first to qualify hardware under AWS IoT Core for LoRaWAN®, allowing enterprises to connect devices without managing a dedicated LoRaWAN® network server.
- TEKTELIC's innovation strategy is driven by a deep understanding of real-world IoT deployment challenges and the need for cost-effective, scalable, and high-RoI solutions. Over the past four years, TEKTELIC has analyzed data from 200+ customers, identifying the most successful use cases—utilities, asset and people tracking, and smart building management. These insights have shaped TEKTELIC's focus on delivering comprehensive LoRaWAN® solutions that eliminate the complexity of integration and long-term management. Unlike generic IoT platforms requiring custom development, TEKTELIC's solutions are designed for seamless deployment and efficiency for 5-10 years. This approach has led to 30%-70% lower deployment costs and significant annual operations savings for customers.

## TEKTELIC (continued)

### GROWTH

- TEKTELIC emerged among the top 5 IoT innovators in the Frost Radar™ Growth Index due to significant growth by focusing on high-impact IoT solutions delivering strong RoI, seamless deployment, and long-term sustainability for customers. By prioritising real-world challenges in environmental monitoring, smart buildings, utilities, and asset tracking, TEKTELIC has positioned itself as a key player in LoRaWAN® technology, providing cost-effective, scalable, and reliable IoT deployments worldwide.
- The company's strategic partnerships have been instrumental in expanding LoRaWAN® networks across key markets. Collaborations with Alsatis and SYADEN in France are enhancing smart energy management, water monitoring, and precision agriculture, driving digital transformation in the region. Meanwhile, TEKTELIC's role as the primary gateway partner for Emergent Connex is enabling a vast 2.5-million-square-mile IoT network across rural America, supporting critical applications in agriculture, smart cities, and infrastructure management. With its KONA Macro and KONA Mega Gateways, TEKTELIC is empowering real-time data-driven decision-making in farming, resource conservation, and municipal services, optimizing operations and sustainability.
- The success of TEKTELIC's VIVID sensor in environmental monitoring further highlights the company's growth trajectory. Businesses are increasingly adopting this solution to optimise office space utilisation, reduce operational costs, and improve indoor air quality for employee productivity and well-being. TEKTELIC's global reach, with over 40 distributors in 60+ countries, underscores its expanding market presence and commitment to delivering carrier-grade IoT solutions that drive efficiency, profitability, and smart city innovation.

# TEKTELIC (continued)

## FROST PERSPECTIVE

- TEKTELIC has emerged among the top five companies in the Frost Radar™ Innovation Index and Frost Radar™ Growth Index, excelling in LoRaWAN® IoT innovation and market expansion. With a strong portfolio of carrier-grade gateways, sensors, and end-to-end solutions, the company has successfully penetrated key verticals such as smart buildings, utilities, asset and people tracking, healthcare, and many more. Strategic partnerships with Emergent Connex, Alsatis, and SYADEN have strengthened its global presence, extending LoRaWAN® connectivity in rural and urban areas. TEKTELIC's focus on high-performance, scalable, and reliable IoT solutions has positioned it as a trusted provider for enterprises and municipalities worldwide.
- To sustain its growth, TEKTELIC must consider shifting towards software-driven revenue models through advanced analytics, AI-driven assistants, cloud-based IoT management, and predictive insights to unlock new business opportunities. Expanding its global distribution network and ecosystem alliances will also be key to scaling deployments and improving customer success. The company must look into developing a partner certification program to ensure distributors, system integrators, and solution providers are well-equipped to deploy and support TEKTELIC's solutions.

## VergeSense (continued)

### INNOVATION

- VergeSense emerged as the third-highest performer in the Frost Radar™ Innovation Index as the company has continuously innovated its product portfolio to address the evolving needs of workplace management. Its AI-powered Workplace Assistant enhances decision-making by providing real estate and workplace leaders personalised recommendations based on real-time occupancy trends. By leveraging AI and natural language interaction, Workplace Assistant enables users to quickly analyse key metrics such as attendance, shortages, bookings, and efficiency insights, reducing the time required for data analysis and space optimisation. This focus on automation and intelligent analytics reflects the company's commitment to driving workplace transformation through data-driven insights.
- The Occupancy Intelligence Platform further strengthens VergeSense's innovation leadership by unifying and analyzing data from multiple sources, including Wi-Fi networks, space booking systems, and high-precision sensor data. This integration allows customers to make informed decisions on space utilisation, portfolio right-sizing, and real estate optimisation. The integration support for third party systems like Cisco Spaces, Cisco Meraki, and HPE Aruba Networks enhances the platform's capability to deliver actionable insights at the building, floor, and neighborhood levels.
- VergeSense offers managed services to support sensor maintenance and data accuracy. Customers can choose from proactive maintenance plans that ensure seamless sensor operation, battery replacement, and ad hoc onsite support. In addition, the premium support package offers dedicated representatives, enhanced SLAs, and priority escalation, reflecting the company's strong focus on customer alignment. The ongoing engagement with customers and the Customer Advisory Board has played a critical role in shaping the company's product innovation roadmap, as demonstrated through insights shared at quarterly Occupancy Intelligence Summits.

## VergeSense (continued)

### INNOVATION

- VergeSense is focusing on enhancing analytics and expanding support for additional occupancy data sources to provide unparalleled insights for workplace optimization. The company is exploring scenario planning tools that enable intelligent occupancy decision-making based on supply and demand analysis, as well as enhanced third-party data analytics capabilities that allow customers to integrate and analyze data from sources such as video conferencing systems, badge access records, and booking data. Building on the recent Microsoft Places integration, VergeSense is also developing new automation solutions for space management, including updates to area sensor change detection, IWMS-agnostic tools for floor plan updates, and historical space metadata tracking, streamlining what is currently a manual process. These advancements aim to empower workplace leaders with data-driven decision-making capabilities across their real estate portfolios.
- VergeSense remains committed to expanding its R&D efforts and introducing new capabilities that enhance workplace intelligence. The combination of AI-driven insights, expanded data integrations, and advanced sensor technologies ensures that organizations can maximize workplace efficiency with minimal manual intervention. As the company continues to innovate, it is well-positioned to lead the market in providing comprehensive, scalable, and intuitive workplace intelligence solutions.

## VergeSense (continued)

### GROWTH

- VergeSense emerged as the second-highest performer in the Frost Radar™ Growth Index as the company's Occupancy Intelligence Platform enables workplace, real estate, and facilities teams to gain a comprehensive understanding of how their spaces are used, helping them balance cost reduction with employee experience in an increasingly dynamic work environment. More than 200 global companies, spanning over 50 countries and 156 million square feet, rely on VergeSense's Occupancy Intelligence Platform for accurate workplace utilization insights. Industry leaders such as Cisco, Autodesk, and BP continuously leverage VergeSense to optimize their spaces, reduce costs, and improve the employee experience.
- A recent case study highlights the impact of VergeSense's solutions. Rapid7, a technology company, needed to adapt its office design to better meet employee needs. Employees had requested more conference rooms and collaboration spaces, but the workplace team lacked the granular space usage data necessary to make an informed decision. VergeSense's wireless area occupancy sensors provided critical insights, revealing a high demand for two-person meeting rooms with Zoom capabilities. As a result, the company installed 50 two-person Zoom Phone Booths throughout its office, optimizing space utilization, increasing employee satisfaction, and significantly reducing potential renovation costs. Instead of implementing a full-floor redesign, Rapid7 strategically added 50 of the most in-demand rooms, saving an estimated \$1.5 million in buildout costs.

## VergeSense (continued)

### GROWTH

- VergeSense Strategic Advisory Services help organisations maximise space availability and enhance employee experiences through expert guidance and data-driven solutions. The company's workshops assist businesses in improving space availability while maintaining an optimal workplace environment. Its intelligent space design analytics inform decisions on office layouts, ensuring that spaces align with employee needs and workplace characteristics. Additionally, the neighborhood planning advisory service helps companies continuously adjust space allocations as teams and work styles evolve. One enterprise software provider leveraged VergeSense Strategic Advisory Services to conduct a 90-day usage study of a satellite office. The study revealed extremely low occupancy rates, with an average of just two people using the space and a peak occupancy of only 17. Based on these insights, the company eliminated the underutilized location, avoiding a costly lease renewal and achieving \$115,000 in lease avoidance. A cost-analysis model was also developed to evaluate other satellite offices, identifying further opportunities for cost savings.
- As part of its growth strategy, VergeSense continues to expand its executive team and partner ecosystem to provide the best possible end-to-end solutions for its customers and the industry. The company collaborates with some of the leading workplace and technology providers, including JLL, Steelcase, CBRE, Eptura, Infogrid.io, Metrikus.io, Schneider Electric, FM:Systems, Spacewell, Mapiq, Inpixon, Waldner's Business Solutions, Johnson Controls, Comfy, and Planon Systems Solutions. Its deepening collaboration with Microsoft Places has introduced a new capability that enables VergeSense customers to seamlessly integrate their VergeSense floor plans into Microsoft Places. This feature allows users to better visualize, plan, and optimize their office environments, aligning spaces with employee preferences and organizational goals. The integration with VergeSense allows organizations to make smarter, data-driven decisions for buildings across their portfolios by leveraging up-to-date floor plans within Microsoft Places. The Occupancy Intelligence platform also integrates with various integrated workplace management systems (IWMS) to continuously sync floor plans and metadata, automating change management processes that would otherwise be manual.

# VergeSense (continued)

## FROST PERSPECTIVE

- VergeSense is a recognised leader in occupancy intelligence, helping organizations optimise real estate investments and workplace experiences. The company continues to expand through advanced analytics, automation, and integrations with platforms like Microsoft Places and IWMS. As demand for real-time occupancy insights grows, VergeSense's strategic advisory services provide valuable guidance in space utilization and cost reduction. However, adoption challenges persist due to internal resistance and change management barriers. Additionally, the market is becoming increasingly competitive, with new entrants and existing players enhancing their capabilities.
- VergeSense should enhance customer education and change management support by investing in industry reports, webinars, and best-practice guides to help organizations maximize occupancy data insights. Further strengthening its integration ecosystem with deeper connections to IWMS, HR systems, and employee experience platforms will further differentiate its offerings. Advancing AI-driven predictive analytics, including scenario planning tools, will enable customers to forecast occupancy trends and optimise space proactively. Prioritizing data privacy, security, and compliance will reinforce customer trust, while expanding strategic advisory services will position VergeSense as a trusted partner in workplace transformation rather than just a technology provider.

# Xovis

## INNOVATION

- Xovis is at the forefront of people flow management, offering advanced 3D stereo vision sensors and intelligent software solutions to improve operational efficiency across airports, retail, and smart buildings. Xovis continuously innovates to deliver high-accuracy, real-time data insights that help businesses and public spaces optimise operations. The company's solutions align with global megatrends such as urbanization, digitalization, and sustainability, ensuring its technology remains future-proof and adaptable to evolving market needs.
- Xovis boasts a comprehensive product portfolio that caters to the diverse demands of industries requiring real-time people tracking and analytics. In the airport sector, the Xovis AERO Passenger Flow Management System (PFMS) provides precise passenger tracking, queue management, and customizable alerts, significantly improving operational efficiency and resource allocation. With a market-leading 98% accuracy rate, Xovis technology ensures smooth passenger experiences while supporting airport database integration for data-driven decision-making. Meanwhile, in retail, Xovis enables businesses to analyze customer behavior, foot traffic, and dwell times, helping optimize store layouts and improve conversion rates. In building management, Xovis supports smart infrastructure planning by monitoring occupancy levels, allowing for energy-efficient HVAC control, space optimization, and on-demand cleaning services that enhance operational sustainability. Xovis also offers other verticals such as transportation, libraries, museums, and live events.

# Xovis (continued)

## INNOVATION

- By integrating artificial intelligence (AI) and machine learning (ML) into its sensors, Xovis ensures its technology continuously evolves and improves. Its AI-enabled sensors enhance pattern recognition, real-time analytics, and adaptive functionalities, making them more effective over time. Additionally, Xovis embraces cloud-native architecture, allowing for automated software updates and proactive monitoring, minimising maintenance downtime and enhancing security. Its multi-sensor configuration capability enables the coverage of large areas seamlessly, making it adaptable to various architectural structures.
- A key pillar of Xovis' innovation strategy is customer alignment and data privacy. The company prioritizes GDPR compliance, ensuring its edge-processing sensors never capture biometric or personal data. This guarantees full regulatory compliance while maintaining high accuracy in people counting and movement tracking. Furthermore, Xovis solutions are designed for seamless integration with third-party systems, including airport databases, retail analytics platforms, and building management systems. Open APIs ensure interoperability and ease of deployment, making Xovis a versatile and scalable choice for businesses seeking reliable people flow management solutions.
- Xovis' dedication to long-term innovation and sustainability is reflected in the durability and adaptability of its technology. Their future-proof design ensures compatibility with new AI advancements and evolving regulatory requirements, providing clients with a cost-effective solution. By focusing on cutting-edge R&D, industry megatrends, and customer-centric innovation, Xovis is redefining people flow management and setting new standards for data-driven decision-making in smart infrastructures.

## Xovis (continued)

### GROWTH

- Xovis emerged as the third-highest performer in the Frost Radar™ Growth Index as it has experienced significant growth over the past 15 years, solidifying its position as a leader in people flow management solutions. The company has maintained an impressive growth rate of approximately 20%, with ambitious plans to double its revenue within the next two to three years. This expansion is largely driven by large-scale projects in airports, partnerships in retail and smart buildings, and strategic collaborations in transportation. By leveraging these high-impact projects as entry points into new markets, Xovis can establish strong local presences and drive further business opportunities.
- A key contributor to Xovis' sustained growth is its international reach, with 95% of its sales generated abroad. The company has over 600,000 sensors installed worldwide and collaborates with more than 400 system integrators. Its solutions are relied upon by over 120 airports globally, as well as major retailers, smart buildings, and public infrastructure operators. This strong global footprint is reinforced by Xovis' offices in Switzerland, Germany, and the United States, allowing the company to maintain close relationships with partners and customers across multiple continents.
- Recurring revenue is an increasingly important aspect of Xovis' business model. The company's cloud-based SaaS solutions and AI-powered sensor technology ensure continuous value for clients, creating long-term business relationships and generating steady, predictable income streams. As demand for real-time data analytics, AI-driven automation, and privacy-compliant people flow tracking continues to rise, Xovis is well-positioned to capitalise on this trend. The company focuses on penetrating new markets through strategic partnerships and large-scale implementations, enabling Xovis to scale efficiently while maintaining its reputation for high-precision technology.

# Xovis (continued)

## GROWTH

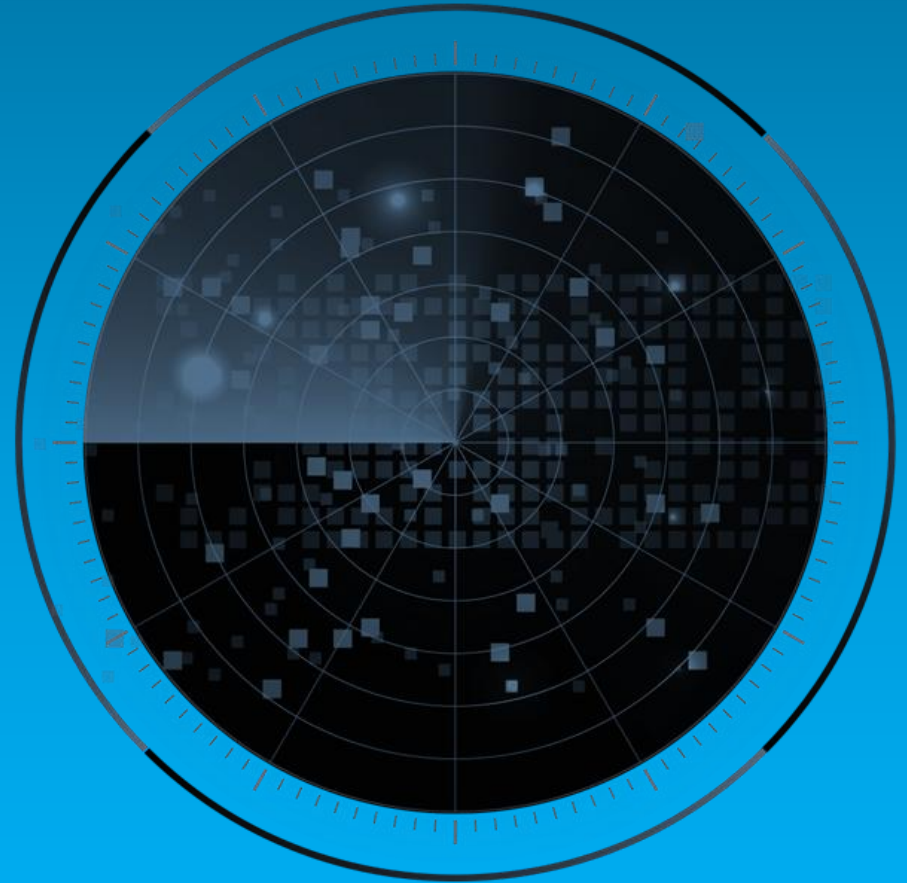
- Xovis has also made a significant impact at industry-leading retail and technology events, such as NRF 2025 and EuroCIS, where its AI-powered sensors and analytics solutions have been featured in live demonstrations and strategic collaborations. These exhibitions serve as valuable platforms to showcase Xovis' expertise in retail analytics, queue management, and in-store behavior tracking, further strengthening its presence in the retail sector. Notably, projects like the Food Innovation Zone (FIZ) analytics initiative at NRF 2025 highlight the real-time, actionable insights Xovis technology provides for optimising visitor engagement, staff allocation, and operational efficiency.
- Xovis' partner ecosystem plays a crucial role in its expansion strategy. Through its Xovis HUB partner platform, the company provides value-added resellers, OEM partners, and analytics providers with the tools and support necessary to integrate Xovis technology in customer premises. The Xovis Partner Program offers benefits such as exclusive service rates, joint sales promotions, technical training, and dedicated support, ensuring that partners can successfully deploy and scale Xovis solutions in their respective industries.
- Looking ahead, Xovis remains committed to innovation, scalability, and market expansion. The company continues to invest in AI, machine learning, and cloud-based technologies to enhance the accuracy, reliability, and efficiency of its solutions. With a future-proof business model, strong international presence, Xovis is well on its way to achieving its aggressive growth targets while setting new standards in people flow management worldwide.

# Xovis (continued)

## FROST PERSPECTIVE

- Xovis has established itself as a leader in people flow analytics, leveraging AI-powered, privacy-compliant 3D stereo vision sensors to deliver highly accurate real-time insights for airports, retail, and smart buildings. With 95% of its sales generated abroad, the company is expanding through strategic partnerships, SaaS-based solutions, and large-scale infrastructure projects. Xovis' cloud-native architecture, AI extensions, and machine-learning enhancements enable businesses to optimize space, improve efficiency, and enhance customer experiences. As a Swiss high-tech company with 600,000 sensors installed worldwide, Xovis continues to push innovation while ensuring compliance with evolving privacy regulations.
- To sustain growth, Xovis should focus on expanding its SaaS and data-as-a-service offerings, increasing recurring revenue streams while reducing reliance on hardware sales. Strengthening its regulatory compliance framework will be essential to address global privacy concerns and build trust with governments and enterprises. Expanding into emerging markets and public infrastructure projects, such as smart cities and transportation hubs, can further solidify its global presence. Additionally, investing in AI-driven predictive analytics will enhance the value proposition for customers, allowing for more proactive decision-making. By fostering deeper collaborations with system integrators and software partners, Xovis can scale faster, improve service offerings, and stay ahead of market demands.

# Best Practices & Growth Opportunities



# Best Practices

# 1

Continuous R&D investment is key to launching eco-friendly innovations, like energy harvesting, energy-efficient or biodegradable sensors, and advanced features, such as computer vision, meeting demands for comfort, efficiency and compliance and competitive differentiation among market players.

# 2

Customer-centric strategies, like Milesight's highly responsive technical team, emphasise the value of training, webinars, and real-time assistance to overcome adoption hurdles. Integrating sensor data with existing building infrastructure enhances insights and deployment efficiency, while showcasing benefits through case studies and thought leadership builds trust and boosts uptake.

# 3

Building a robust partner ecosystem, expanding channel networks, and co-developed solutions enhances interoperability, scalability, reduces deployment barriers, and drives market penetration across diverse applications.

# Growth Opportunities

# 1

Companies can enhance sensor functionality by leveraging AIoT to deliver predictive insights, such as occupancy patterns or customer behavior trends, enhancing applications in retail and workplace management. This opens up new revenue streams in developed and developing economies to improve decision-making and operational efficiency.

# 2

Opportunities abound for expanding sensor deployments into waste management, smart transportation, and outdoor air quality monitoring within smart infrastructure settings. By integrating with scalable platforms, companies can address urbanization demands, bridge connectivity gaps in rural areas, and align with sustainability goals, driving broader market impact.

# 3

Market players can shift toward a software-based recurring revenue by enhancing web applications with cloud-based analytics, such as space utilization or environmental monitoring insights. Offering value-added, trainable tools can boost customer retention, stabilise income, and meet enterprise demands across smart building applications, capitalising on the growing preference for subscription business models.

# Frost Radar™ Analytics



# Frost Radar™: Benchmarking Future Growth Potential

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

### Growth Index

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.

**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 (continued)

### Innovation Index

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.



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.

## Next Steps: Leveraging the Frost Radar™ to Empower Key Stakeholders



# Significance of Being on the Frost Radar™

---

Companies plotted on the Frost Radar™ are the leaders in the industry for growth, innovation, or both. They are instrumental in advancing the industry into the future.

---

## GROWTH POTENTIAL

Your organization has significant future growth potential, which makes it a Company to Action.

## BEST PRACTICES

Your organization is well positioned to shape Growth Pipeline™ best practices in your industry.

## COMPETITIVE INTENSITY

Your organization is one of the key drivers of competitive intensity in the growth environment.

## CUSTOMER VALUE

Your organization has demonstrated the ability to significantly enhance its customer value proposition.

## PARTNER POTENTIAL

Your organization is top of mind for customers, investors, value chain partners, and future talent as a significant value provider.

# Frost Radar™ Empowers the CEO's Growth Team

## STRATEGIC IMPERATIVE

- Growth is increasingly difficult to achieve.
- Competitive intensity is high.
- More collaboration, teamwork, and focus are needed.
- The growth environment is complex.

## LEVERAGING THE FROST RADAR™

- The Growth Team has the tools needed to foster a collaborative environment among the entire management team to drive best practices.
- The Growth Team has a measurement platform to assess future growth potential.
- The Growth Team has the ability to support the CEO with a powerful Growth Pipeline™.

## NEXT STEPS

- **Growth Pipeline Audit™**
- **Growth Pipeline as a Service™**
- **Growth Pipeline™ Dialogue with Team Frost**

# Frost Radar™ Empowers Investors

## STRATEGIC IMPERATIVE

- Deal flow is low and competition is high.
- Due diligence is hampered by industry complexity.
- Portfolio management is not effective.

## LEVERAGING THE FROST RADAR™

- Investors can focus on future growth potential by creating a powerful pipeline of Companies to Action for high-potential investments.
- Investors can perform due diligence that improves accuracy and accelerates the deal process.
- Investors can realize the maximum internal rate of return and ensure long-term success for shareholders.
- Investors can continually benchmark performance with best practices for optimal portfolio management.

## NEXT STEPS

- **Growth Pipeline™ Dialogue**
- **Opportunity Universe Workshop**
- **Growth Pipeline Audit™ as Mandated Due Diligence**

# Frost Radar™ Empowers Customers

## STRATEGIC IMPERATIVE

- Solutions are increasingly complex and have long-term implications.
- Vendor solutions can be confusing.
- Vendor volatility adds to the uncertainty.

## LEVERAGING THE FROST RADAR™

- Customers have an analytical framework to benchmark potential vendors and identify partners that will provide powerful, long-term solutions.
- Customers can evaluate the most innovative solutions and understand how different solutions would meet their needs.
- Customers gain a long-term perspective on vendor partnerships.

## NEXT STEPS

- **Growth Pipeline™ Dialogue**
- **Growth Pipeline™ Diagnostic**
- **Frost Radar Benchmarking System**

# Frost Radar™ Empowers the Board of Directors

## STRATEGIC IMPERATIVE

- Growth is increasingly difficult; CEOs require guidance.
- The Growth Environment requires complex navigational skills.
- The customer value chain is changing.

## LEVERAGING THE FROST RADAR™

- The Board of Directors has a unique measurement system to ensure oversight of the company's long-term success.
- The Board of Directors has a discussion platform that centers on the driving issues, benchmarks, and best practices that will protect shareholder investment.
- The Board of Directors can ensure skillful mentoring, support, and governance of the CEO to maximize future growth potential.

## NEXT STEPS

- **Growth Pipeline Audit™**
- **Growth Pipeline as a Service™**

# Next Steps



Does your current system support rapid adaptation to emerging opportunities?

# Legal Disclaimer

Frost & Sullivan is not responsible for any incorrect information supplied by companies or users. Quantitative market information is based primarily on interviews and therefore is subject to fluctuation. Frost & Sullivan research services are limited publications containing valuable market information provided to a select group of customers. Customers acknowledge, when ordering or downloading, that Frost & Sullivan research services are for internal use and not for general publication or disclosure to third parties. No part of this research service may be given, lent, resold, or disclosed to noncustomers without written permission. Furthermore, no part may be reproduced, stored in a retrieval system, or transmitted in any form or by any means—electronic, mechanical, photocopying, recording, or otherwise—without the permission of the publisher.

For information regarding permission, write to: [permission@frost.com](mailto:permission@frost.com)

© 2024 Frost & Sullivan. All rights reserved. This document contains highly confidential information and is the sole property of Frost & Sullivan. No part of it may be circulated, quoted, copied, or otherwise reproduced without the written approval of Frost & Sullivan.