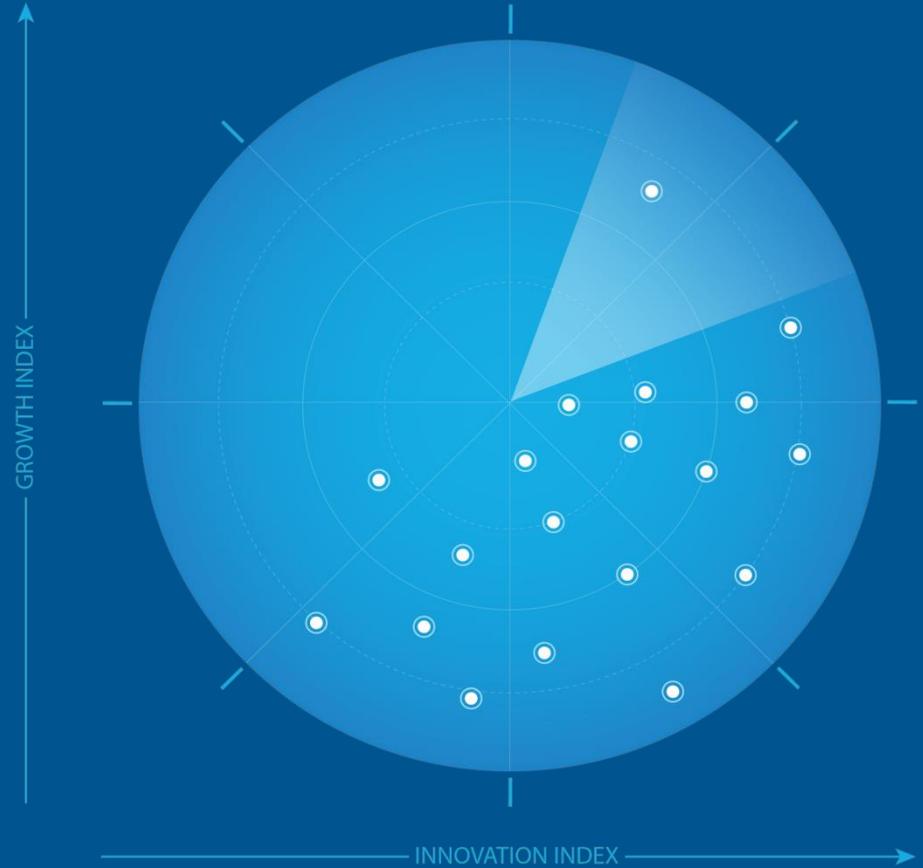


Frost Radar™: Global Critical Infrastructure Cyber Security Market, 2021

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

Global Cyber Security
Research Team at
Frost & Sullivan



Strategic Imperative and Growth Environment



Strategic Imperative

- During the last decade, critical infrastructure organizations (those whose operations are vital to sustaining citizens' lives or national security) have undergone two major transformations: first, the introduction of digital technologies and systems to enable more efficient operations, and second, an exponential rise in their overall risk profile as an attack target for cyber criminals.
- The COVID-19 pandemic has presented a pivotal opportunity for critical infrastructure organizations to build out their cyber security operations due to the massive need to enable and safeguard remote access to their facilities and devices, especially during national lockdown or when operating with a reduced staff, and ensure no significant operational downtime occurs.
- Moreover, the pandemic has proven challenging for cyber security vendors seeking to sell to critical infrastructure organizations as their sales processes typically rely on on-site demonstrations and because customers' already tight budgets have become even tighter as government funding sources were either diverted to public health measures or halted until the pandemic has passed.
- Nonetheless, to mitigate their elevated risk level and attack profile, many critical infrastructure organizations seek a more robust understanding of how their network architecture is constructed, where vulnerabilities exist, and how to best secure or respond to any incident in accordance with both compliance standards and organizational policy.

Source: Frost & Sullivan

Strategic Imperative (continued)

- For most critical infrastructure customers, cyber security policy has been centered on adhering to vague regulatory compliance policies across industries and geographies or on air-gapping critical systems to keep them off the network, without actually applying stronger security protections. As more and more systems and processes become digitized within critical infrastructure operations, these basic cyber security tenants are proving to be highly vulnerable to compromise.
- The best approach to meet the specific challenges of critical infrastructure organizations is through converged operational technology (OT) and information technology (IT) cyber security solutions that enable asset and system security, maintain operational continuity, and adhere to specific industry compliance regulations while providing a better return on investment (ROI) to customers who are looking for a comprehensive security solution that can meet multiple demands.
- The US Department of Homeland Security defines 16 specific industries as critical infrastructure, but this analysis focuses on 4, utilities, oil and gas, airports, and maritime ports, all of which are in different stages of maturity concerning digital operations.

Growth Environment

- The overall global market for critical infrastructure cyber security solutions is fairly mature, with forecasts indicating an increase from \$21.67 billion in 2019 spending to \$24.21 billion by 2030, growing at a compound annual growth rate (CAGR) of 1.02%. Although this spending growth would usually signal that the market is highly mature, it is deceiving. In reality, some critical infrastructure sectors (e.g., oil and gas and utilities) dominate overall spending share due to their more mature cyber security postures whereas other sectors (e.g., maritime ports and airports) are growing at much faster rates because of significant new system adoption and increasing security awareness.
- Multiple capabilities are vital to building the digital resilience strategies that critical infrastructure organizations need to protect themselves from malicious actors. These functions include:
 - Asset discovery, identification, visibility, and real-time inventory
 - Real-time network monitoring and network topology/mapping
 - Vulnerability management and incident/breach detection
 - Asset and network configuration management tools and regulatory compliance auditing
- Despite the critical infrastructure vertical to which an organization belongs, these 4 capabilities are the main objectives for cyber security resiliency. Most infrastructure sectors remain in the asset discovery phase, although some more mature sectors (i.e., utilities and oil and gas) have begun to move into the real-time monitoring and vulnerability management phases in tandem.

Source: Frost & Sullivan

Growth Environment (continued)

- With risk assessment and alert prioritization capabilities playing a central role in many critical infrastructure cyber security solutions, the introduction of more artificial intelligence (AI) and machine learning (ML) engines to help security operators actively detect and act on the most relevant alerts can now be based on programmed policies rather than on whichever alert an operator sees first.
- Two other distinct technical capabilities that are shifting how infrastructure organizations approach their cyber visibility and remediation capabilities include the integration of OT devices and assets with Internet of Things (IoT)-type discovery and detection solutions to create a more integrated system architecture.
- Another shift includes the changing approach to asset discovery and monitoring of devices through an endpoint security approach, rather than traditional asset discovery via an active agent embedded into the device. This approach will not only allow for much faster and automatic discovery operations, but will enable real-time monitoring and vulnerability detection with these activities being done at the device-level.

Frost & Sullivan studies related to this independent analysis:

- [Global Use-Cases for Cyber Security Solutions in Critical National Infrastructure](#)
- Digitalization and Real-time Visibility Transforming the Global Critical Infrastructure Cyber Security Market

Source: Frost & Sullivan

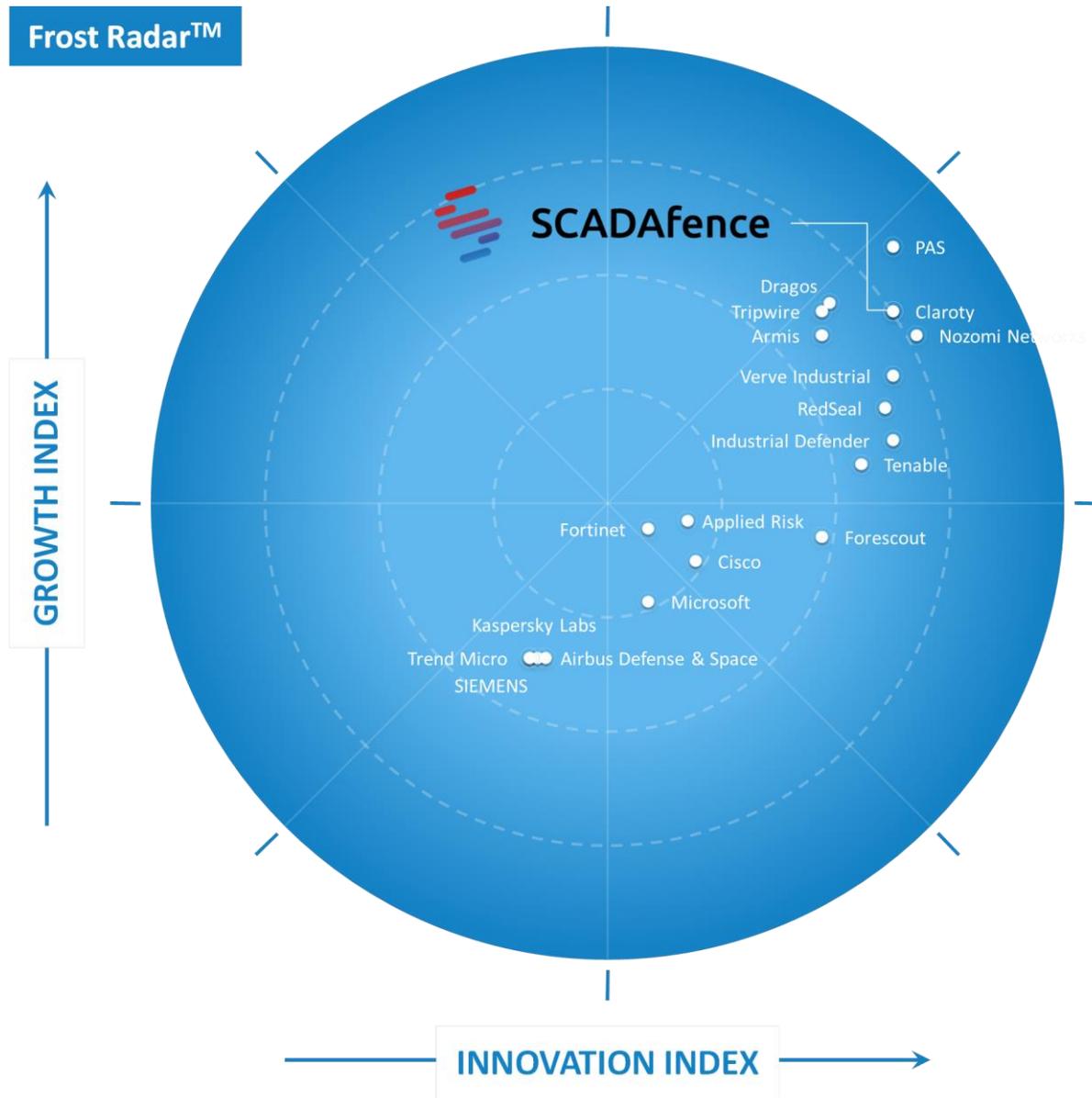


Frost Radar™

**Global Critical
Infrastructure Cyber
Security Market**

Frost Radar™: Critical Infrastructure Cyber Security Market

Frost Radar™



Source: Frost & Sullivan

Companies to Action

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

SCADAfence

INNOVATION

- SCADAfence created its network visibility and detection solutions by first building a highly scalable data traffic monitoring system that fits complex network architectures and by emphasizing real-time status monitoring and visibility into the OT environment. This is augmented by threat detection capabilities that monitor 100% of network traffic, rather than relying on sampling analysis.
- In addition, through one SCADAfence sensor, customers can build a micro-granular baseline for each asset; as the sensor builds a behavioral baseline via AI/ML, the solution conducts passive network monitoring through the entire ecosystem.
- SCADAfence recently introduced its Governance and Compliance Portal that passively maps all network assets and their status and then shows their compliance to policies and procedures.

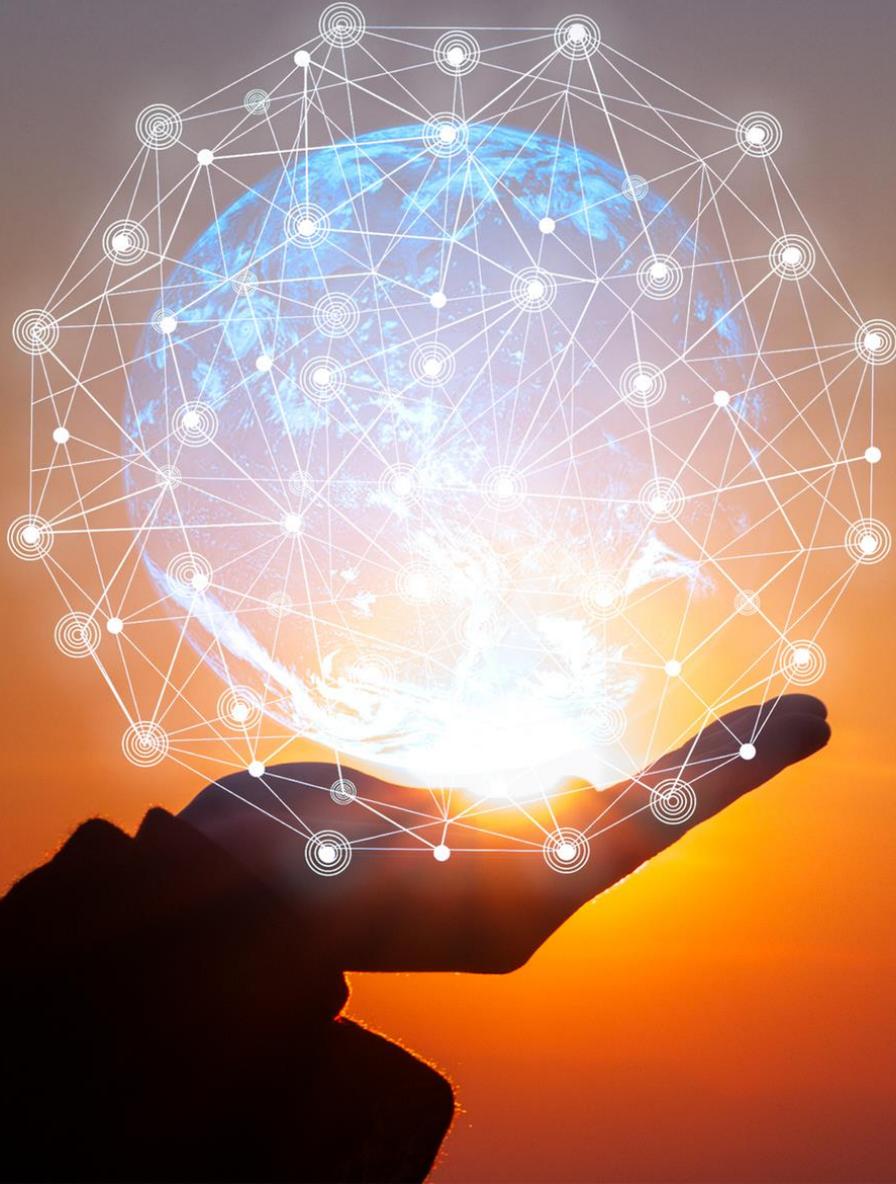
GROWTH

- While SCADAfence's entrance into the market was slightly later than other OT-first cyber security solution vendors, the company has quickly gained ground in both new customer acquisition and overall project size due to the high scalability inherent in its solutions.
- The company's nascent work with Rapid7 to become the IT vendor's partner of choice when approaching critical infrastructure customers for a combined IT-OT cyber security solution opens up significant new project opportunities through existing Rapid7 customers and those that the company could not approach on its own.
- SCADAfence seeks to identify many of its growth opportunities straight from its customers by delivering what they need from their security solution that is not currently being provided as well as by tracking the latest industry best practices and technology trends.

FROST PERSPECTIVE

- While SCADAfence offers a compelling solution, its brand awareness remains relatively lower when compared to other OT vendors. Emphasizing its Rapid7 partnership will prove to be a game-changer with regards to brand recognition and outreach to a new customer base.
- The inherent scalability built into SCADAfence's solutions could prove to be a significant differentiator and win customers hesitant to adopt other OT solutions that cannot scale to their entire organization. Showing customers how the solution can overcome their system complexity challenges will be crucial to new project acquisition.
- The threat detection capabilities of SCADAfence's real-time traffic monitoring will stand out as a key capability for the company, particularly when compared to other OT cyber security vendors.

Source: Frost & Sullivan



Strategic Insights

Strategic Insights

1

The global critical infrastructure cyber security competitive landscape is transforming. Traditionally IT-focused cyber security providers are entering the OT cyber security space and competing for security projects among critical infrastructure customers. Conversely, many of the more established OT cyber security players are seeking to expand their offerings via IT integrations or by adding new, converged IT-OT solutions.

2

Despite the relative maturity of cyber security systems in the oil and gas and utility sectors, the overall critical infrastructure cyber security market remains incredibly nascent, with heavy reliance on legacy technologies, basic air-gapping protections, and organizations' lack of understanding their network status and configuration. Vendors must be ready to not only offer solutions that can provide real-time visibility and asset inventory, but also must look toward long-term solution ownership, services, and scalability as these organizations become more digitally mature.

3

With so much focus on network and asset visibility, as well as the need for immediate threat or event detection, resource-strapped security teams cannot be expected to maintain policy adherence, regulatory compliance, and asset configuration, as well as monitor their network for threats. This will necessitate that cyber security solutions integrate automated monitoring and change management functions with the potential to include more AI/ML-based detection and analysis capabilities.

Source: Frost & Sullivan



**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.

Source: Frost & Sullivan

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**

Source: Frost & Sullivan

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**

Source: Frost & Sullivan

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**

Source: Frost & Sullivan

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™**

Source: Frost & Sullivan

Frost Radar™ Analytics



Frost Radar™: Benchmarking Future Growth Potential

2 Major Indices, 10 Analytical Ingredients, 1 Platform

VERTICAL AXIS

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

GROWTH INDEX ELEMENTS

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

Frost Radar™: Benchmarking Future Growth Potential

2 Major Indices, 10 Analytical Ingredients, 1 Platform

HORIZONTAL AXIS

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

INNOVATION INDEX ELEMENTS

- **II1: INNOVATION SCALABILITY**

This determines whether an organization's innovations are globally scalable and applicable in both developing and mature markets, and also in adjacent and non-adjacent industry verticals.

- **II2: RESEARCH AND DEVELOPMENT**

This is a measure of the efficacy of a company's R&D strategy, as determined by the size of its R&D investment and how it feeds the innovation pipeline.

- **II3: PRODUCT PORTFOLIO**

This is a measure of a company's product portfolio, focusing on the relative contribution of new products to its annual revenue.

- **II4: MEGA TRENDS LEVERAGE**

This is an assessment of a company's proactive leverage of evolving, long-term opportunities and new business models, as the foundation of its innovation pipeline. An explanation of Mega Trends can be found [here](#).

- **II5: CUSTOMER ALIGNMENT**

This evaluates the applicability of a company's products/services/solutions to current and potential customers, as well as how its innovation strategy is influenced by evolving customer needs.

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