

Frost Radar™: Privileged Access Management, 2024

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

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PFN4-74
August 2024

Strategic Imperative and Growth Environment



Strategic Imperative

- Digitized operations and hybrid work modes are leading to the proliferation of human and non-human identities, creating a large number of privileged identities. However, access to manage and secure these privileged identities comes with a rising risk of credential abuse. To secure privileged users, identities, and accounts, Frost & Sullivan defines PAM as a security approach comprising privileged password and session management (PPSM) tools, which include access management, password management, session management, and authorization and delegation management (ADM) tools, which detect and manage security risks that privileged users cause.
- As organizations increasingly migrate resources and infrastructure to cloud environments, legacy PAM solutions such as basic vaulting capabilities, session monitoring, and account management solutions offered by cloud service providers (CSPs) are no longer sufficient in protecting privileged identities, accounts, and users in complex cloud environments. This is especially true when real-time monitoring across all cloud resources, services, and applications is required, resulting in a shift toward an automated and consolidated PAM approach.
- While the adoption of cloud-based PAM solutions and software-as-a-service (SaaS) PAM is increasing steadily, the requirement for on-premises PAM solutions remains relevant, especially in highly regulated industries. There is a growing requirement for PAM solutions with deployment flexibility covering on-premises, hybrid, cloud, and SaaS environments depending on business needs.
- The need to secure access to cloud resources emphasizes a consolidated PAM approach incorporating cloud security features such as cloud identity entitlement management (CIEM), identity governance and administration (IGA), and cloud security posture management (CSPM) for better visibility and management, especially PAM solutions that either support or have full native integration of DevOps and CIEM tools.

Strategic Imperative (continued)

- Growing cloud migration and demand for a dynamic cloud-native environment drive a strong need for AI/ML capabilities. Using AI/ML, organizations can enrich their threat detection, automate remediation, optimize operations, facilitate predictive analytics, and enhance access control. By leveraging AI/ML, customers' security tools are data-backed and could save organizations thousands of man-hours of work. PAM vendors should embed AI/ML into their portfolios to enable consistency, full visibility, and efficiency.
- While there are many disparate security tools in the market, organizations are not only focused on streamlining security operations to increase efficiency but also seeking end-to-end, holistic visibility via a more robust single-pane-of-glass management platform, integrating and converging different PAM functionalities, such as security information and event management (SIEM) and just-in-time (JIT) access for on-demand privileged access and simplified PAM. They also offer integration support with adjacent security technologies, such as VPN-less remote access, CSPM, zero trust architecture, IGA, identity threat detection and response (ITDR), or secrets management.

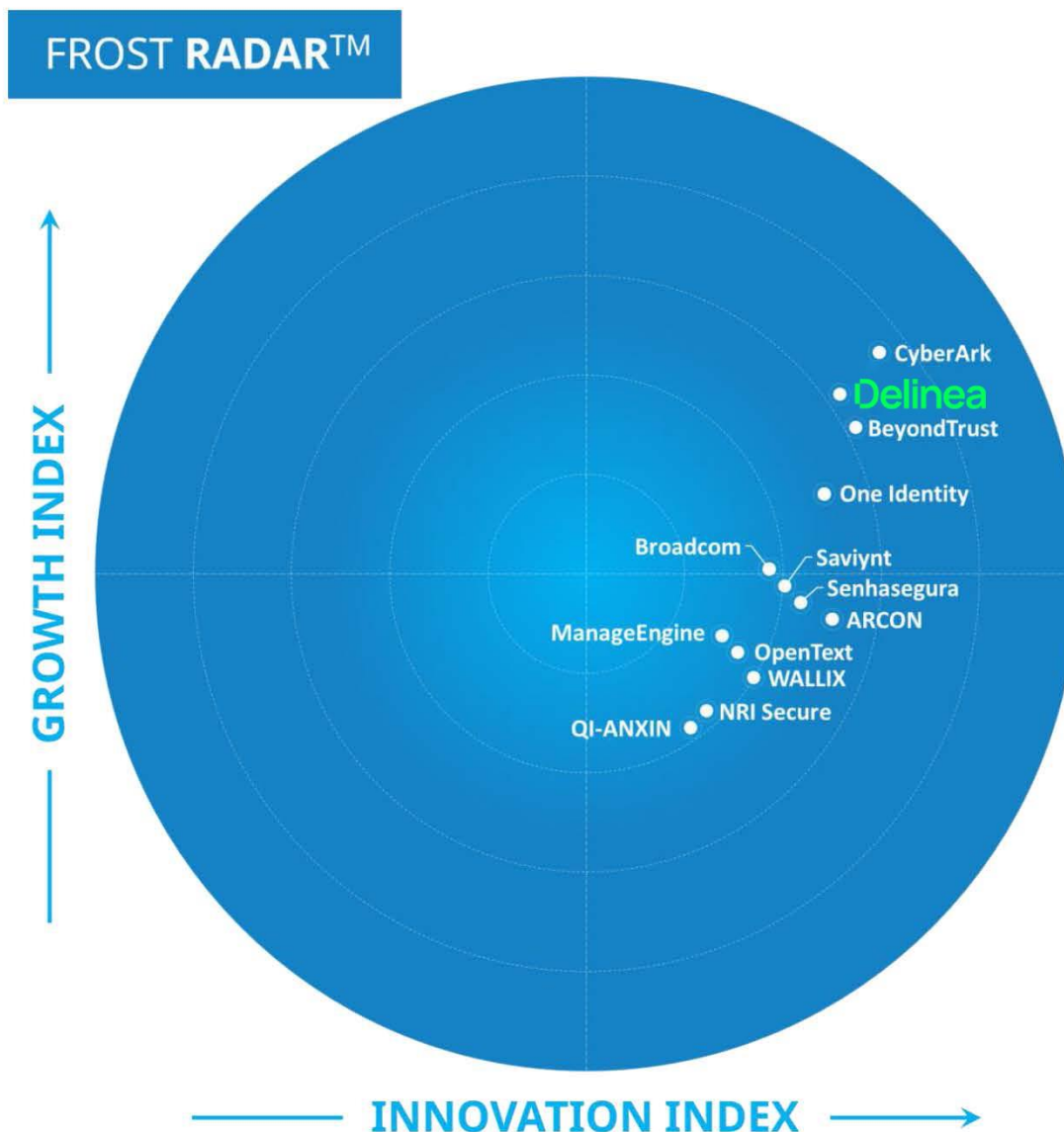
Growth Environment

- In 2023, the global PAM industry recorded robust year-on-year (YoY) revenue growth of 19.4%, resulting in a total market revenue of \$1,827.7 million. North America (NA) was the largest regional market, accounting for close to 41.0% of the total global PAM market share, followed by Asia-Pacific (APAC), Europe, the Middle East and Africa (EMEA), and Latin America (LATAM). Frost & Sullivan expects the growth momentum to increase at a CAGR of 21.6% from 2023 to 2028, achieving a revenue of \$4,856.5 million in 2028.
- On-premises PAM dominates the global PAM market over cloud-based PAM, and this deployment trend is forecast to continue for the next 3 years. However, the adoption of cloud or SaaS-based PAM has grown rapidly and is projected to dominate the global PAM market in the next 5 years. Cloud or SaaS-based PAM revenue grew at a higher YoY revenue growth rate in 2023 and is forecast to maintain a robust CAGR over the next 5 years, compared to on-premises deployments.
- The spending sentiment for PAM solutions continues to grow, driven by the rising frequency and sophistication of cyberattacks, including privileged escalation, insider threats, and AI-driven attacks, and the noticeable increase in demands from cyber insurers, in addition to strict global and regional cybersecurity regulations, standards, and compliance mandates that require stringent controls over access to sensitive data and systems.
- The consolidation trend and rising adoption of cloud-native technologies and applications will encourage industry vendors to incorporate advanced technologies into their PAM portfolios. These capabilities include (but are not limited to) automation, AI, multilevel ML, user entity and behavior analytics (UEBA), CIEM, cloud secure access, DevOps secrets management, zero trust architecture, ITDR, IGA, and CSPM.

Growth Environment (continued)

- PAM vendors will continue to enhance their PAM offerings, depending on the market direction and megatrends, through mergers and acquisitions, technological partnerships, or in-house developments, evolving to offer customers end-to-end protection against cyberattacks on privileged accounts and identities.
- Frost & Sullivan considered the following factors as essential to a PAM vendor when compiling the Frost Radar™ assessment:
 - New PAM product launches and the scalability of PAM product features or portfolios
 - Flexible deployment options and product form factors, including SaaS, cloud-based, and on-premises solutions, as well as the integration capabilities between them
 - Ability to leverage megatrends and integrate other technologies (secrets management, remote access, zero trust adoption, IGA, ITDR, JIT access, AI/ML, DevOps tools, CIEM tools) for enhanced security
 - Ability to deliver services and products tailored to local customer needs in NA, EMEA, LATAM, and APAC to strengthen regional presence

Frost Radar™: Privileged Access Management



Frost Radar™ Competitive Environment

- In this Frost Radar™, Frost & Sullivan shortlisted and assessed the top 13 PAM vendors from a pool of more than 25 global market players based on the following criteria:
 - Have a business presence in at least 2 global regions (i.e., NA, EMEA, LATAM, and APAC)
 - Have at least 1.0% of global market share
 - Have at least \$20 million in PAM business revenue
- PAM vendors selected for this Frost Radar™ analysis are ARCON, BeyondTrust, Broadcom, CyberArk, Delinea, ManageEngine, NRI Secure, One Identity, OpenText, QI-ANXIN, Saviynt, Senhasegura, and WALLIX.
- CyberArk, Delinea, and BeyondTrust topped the Growth index because of their consistent revenue performance and market share growth in the global PAM market in the past 2 years. These PAM vendors have continued to expand their PAM portfolios and revamp their go-to-market strategy to broaden their global customer base while maintaining a solid presence across different vertical segments compared to other PAM players. With an aggressive pricing strategy, meaningful partnerships, and M&A activities, these 3 leaders have achieved consistent revenue growth and strengthened their brand value and PAM business, enabling them to build a robust growth pipeline over the next 2 years.
- CyberArk, BeyondTrust, and Delinea have been ranked top Innovation index leaders. These industry players' continuous commitment to technological innovations that align with customer needs has been commendable. In addition to leveraging the rapid growth of the cloud industry by offering flexible deployment options, especially SaaS-driven solutions that are increasingly sought after, these players have also sought approaches to consolidate different point solutions and security technologies, including enhanced identity security and AI/ML to create a consolidated and holistic PAM.

Frost Radar™ Competitive Environment (continued)

- Frost & Sullivan recognizes CyberArk's pioneering efforts in secrets management, CIEM, identity security, and ITSM and ChatOps tooling integration. It is one of the few vendors with full FedRAMP high authorization to operate (ATO) status, exemplifying this recognition milestone.
- BeyondTrust's high Innovation scores are attributed to its robust unified management console and single agent approach, which are delivered in different deployment options and offer centralized visibility. Its BeyondTrust Platform embedded with the Identity Security Insights (introduced in 2023) gives customers one holistic view, harnessing analysis, intelligence, real-time visualization, and correlation of data and recommendations, showcasing its alignment with customers' needs in minimizing management complexity.
- Delinea is positioned high for its single cloud-native platform, which unifies comprehensive SaaS PAM capabilities, visionary roadmap strategy, and commitment to R&D, including AI-driven auditing (AIDA) and enhanced identity security.
- While the remaining market players demonstrate essential PAM capabilities and have a business presence in at least 2 global regions, they have room to enhance PAM capabilities and introduce industry-leading innovations to diversify their PAM portfolios.
- Following closely after the leading 3 competitors is One Identity, which has a relatively solid position on both Growth and Innovation indexes due to its global footprint, solid brand reputation, and consistent market share in the PAM space. However, its revenue growth is relatively lower than the market average, and its incorporation of AI/ML and convergence with enhanced identity security remain limited.

Frost Radar™ Competitive Environment (continued)

- Besides One Identity, ARCON's ability to offer flexible deployment options and visionary road maps has positioned the vendor among the innovation leaders on the Innovation index; whereas it ranks among the competitive pack on the Growth Index due to its small market presence and customer base in NA.
- Broadcom is one of the key market players among the competitive pack on both indexes. Although the company offers various deployment options and enables integrations with IGA and ITSM besides creating strategic partnerships and acquisitions, the company continues to lack focus on cloud security features, including CIEM, remote access, or even out-of-the-box connector framework in its PAM technology roadmap.
- Saviynt and Senhasegura are 2 other noteworthy market players in the competitive pack. Scoring competitive positions on the Innovation index, both incorporate advanced PAM capabilities that are aligned with megatrends. However, in terms of growth, Saviynt's business presence in APAC and LATAM remains limited, while Senhasegura's business presence remains largely concentrated in the LATAM region.
- Like ARCON, WALLIX is one of the few PAM vendors focused on OT security capabilities. The company has fully integrated its CIEM capabilities through acquisitions, although this is recent compared to other PAM innovation leaders. The company's business presence beyond EMEA is limited, while its global market share remains small, joining NRI Secure and QI-ANXIN on the Growth index.
- ManageEngine joins OpenText as lacking a strong focus on cloud security features and converging PAM with other security technologies, including enhanced identity security. Both players need a clearer PAM technology roadmap to stay relevant.

Frost Radar™ Competitive Environment (continued)

- QI-ANXIN and NRI Secure have the majority of their PAM business in APAC, mainly China and Japan, respectively. These vendors need to align their technology innovation strategy with diverse local customer requirements across other regions and enter the NA market to build a steady growth pipeline in the next 5 years.
- Overall, all Radar participants need to establish more strategic partnerships, technology alliances, and acquisitions to enhance their PAM portfolios, maintain innovation scalability, and expand geographic reach to serve customers' PAM needs from various areas besides the largest region (i.e., NA), to sustain their growth pipeline for the next 5 years.

Frost Radar™: Companies to Action



Delinea

INNOVATION

- Delinea is one of the 3 leading PAM market players on the Frost Radar™ Innovation index, as it continuously enhances its PAM functionalities and delivers an integrated experience via the cloud-native Delinea Platform.
- Delinea is well-known for its PEDM and Secret Server vaulting and has expanded its PAM capabilities from securing access to accounts, devices, and CI/CD pipelines to managing the full life cycle of privileged accounts and offering strong life cycle management service, user-friendly Secret Server, and Privilege Manager. Its PAM solution offers a range of features designed to securely manage and protect privileged account credentials and implement privileged access controls across all identities.
- Some of the key features include Secret Server with VPN-less secure remote access, DevOps Secret Vault, Server PAM, JIT/JEP, Privilege Manager for workstations, and Privileged Behavior Analytics using advanced AI/ML discovery, password management, session monitoring and recording, multi-factor authentication enforcement, privileged remote access, privilege escalation management, access control, compliance, analytics and audit features, CIEM, ITDR, separation of duty (SoD), as well as integration with various tools, including Active Directory, Microsoft Entra ID, and cloud-based applications.
- In 2023, the company enhanced its PAM portfolio by enforcing MFA at the credential level to improve the protection of critical privileged accounts; QuantumLock to provide an option to utilize a quantum-safe algorithm to protect the private key for on-premises and SaaS-based Secret Server; disaster recovery to include additional metadata to improve resiliency of secrets; newly support platforms, including AlmaLinux and Amazon Linux; and usability improvements for new users in the server suite of server PAM.

Delinea (continued)

INNOVATION

- Its Privilege Manager, which sets policies and manages local group memberships on workstations, added MacOS-specific enhancements, Windows enhancements, enhancements on its out-of-the-box frequent policies for ease and speed of deployment, and other accessibility enhancements. Additional enhancements include adding a policy editor to the UI, allowing for more granular administration by separating permission documents from the policy in DevOps Secrets Vault, and interface improvements to its Account Lifecycle Manager (ALM).
- Delinea's cloud-native platform has consolidated PAM solutions while growing its secrets management capabilities by allowing integration with a growing set of developer tools. The company leverages megatrends driving the market through its focus on enhanced identity security and the recent adoption of AI-driven auditing (AIDA) through its Intelligent Automated Auditing, quantum encryption for secret server, cloud-native microservice architecture, CIEM, and ITDR capabilities. As of 2023, the company has yet to fully integrate IGA, while the launch of its CIEM and ITDR capabilities into its Delinea Platform was fairly recent. It also introduced Privilege Control for Servers as a native Delinea platform solution to provide just enough and just-in-time privilege elevation on Windows, Linux, and Unix servers across identity providers. Delinea plans to introduce Privilege Manager (Workstations) on the platform in 2025.
- The company offers various deployment options, both software and SaaS-based, catering to diverse business needs. Its efforts to strengthen its PAM portfolio to meet customer needs make its offering more compelling.

Delinea (continued)

GROWTH

- Delinea is well-positioned on the Growth Index of the Frost Radar™, owing to its healthy and consistent YoY growth performance in the last 2 years.
- Frost & Sullivan estimates that the company registered YoY revenue growth of 23.2% in 2023, with NA contributing the highest, followed by EMEA, APAC, and LATAM. This growth momentum enabled Delinea to capture approximately 10.4% share of the global PAM market in 2023. Known for its far-reaching channel partner connections worldwide, the company's support toward its global partner ecosystem via its Delinea Partner Program, which offers 4 levels with various benefits to suit all types of partners, has contributed to its double-digit growth across all major regions. Its new partnerships in 2023 have empowered Delinea to serve customers from all segments.
- A combination of its customer experience by design, which offers 3 customer support models, 3 editions of pricing models, and SaaS and subscription-based offerings, Delinea's PAM appeals to a diversified customer base spanning SMBs to large, enterprise-level organizations.

Delinea (continued)

FROST PERSPECTIVE

- Delinea is a leader on the Growth and Innovation indexes of the Frost Radar™. Its industry presence remains largely centered in the NA market, while its geographic expansion in EMEA and APAC is expected to grow steadily for the next 3 to 5 years as it expands its sales, engineering, and customer success functions and increases investments through new partnerships and MSSPs through the Delinea Partner Program in regions outside of NA.
- To maintain its leadership in innovation, Delinea should continue its growth in R&D to improve its session management, service account, and credential management capabilities, broadening its PAM portfolio.
- As customers increasingly rationalize their spending and look for more consolidation of security solutions, Delinea's Platform, which debuted in March 2023, has positioned its PAM offering as a single cloud-native platform approach that unifies comprehensive SaaS PAM capabilities, including vaulting, secure remote access, JIT/JEP privilege enforcement, and centralized authorization controls, offering availability, resiliency, while enabling updates, enhancements, and new capabilities to be rapidly deployed using modern DevOps practices. The company has also been active on the AI/ML front, bringing to market innovations, including AI-driven Auditing (AIDA), along with AI-augmented risk scoring (provides a comprehensive view of identity-associated risk and a detailed analysis of potential damage associated with a compromise connected to that identity), natural language query capabilities, and a DelineaGPT conversational AI component. The company is well-placed to capitalize on the consolidation demand.

Delinea (continued)

FROST PERSPECTIVE

- While Delinea was working on CIEM and ITDR in 2023 and fully integrated both into the Delinea Platform by early 2024, it was also in the process of fully integrating IGA to deliver a full-featured IGA by the end of 2024. Despite launching CIEM and ITDR recently, the company's go-to-market strategy, channel partner program's focus on PAM, and increased demand for convergence of security technologies and consolidation will help the vendor win new customers looking for a centralized security solution incorporating AI/ML into its session monitoring, analysis, and remediation security practices.
- Since many of its new advanced capabilities and the reengineered Delinea Platform are offered as SaaS only, the company should consider offering on-premises deployments to meet the needs of different customer segments. This deployment option remains in demand by highly regulated customer segments, allowing data sovereignty and customized integration with existing infrastructure.

Best Practices & Growth Opportunities



Best Practices

1

Flexible deployment options that support different environments, including on-premises data centers, private clouds, public clouds, and containerized environments, will help customers implement PAM in a way that fulfills their business needs and addresses data privacy concerns. By integration, technological partnership, or M&As, PAM vendors offering deployment flexibility enable customers to standardize and enforce PAM best practices over privileged accounts across on-premises and cloud environments.

2

PAM vendors should partner with companies invested in AI/ML, expanding their ecosystem and expertise in this arena to build a platform that serves as an ecosystem of security tools, offering enhanced risk scoring and threat intelligence services and providing integration support with adjacent security solutions. These complementary offerings should improve risk reduction and enable automated remediation, significantly enhancing data security and compliance measures.

3

Besides maintaining their competitive edge with technology innovations and go-to-market strategies, PAM vendors will need to strengthen their channel partner programs, offer professional services that support the market direction, and ensure customers receive maximum value from their PAM investments. PAM vendors and CISOs need to work closely to achieve a comprehensive and holistic PAM strategy in a practical manner.

Growth Opportunities

1

Many organizations are migrating their resources and infrastructure to cloud environments, which expands organizations' attack surface and poses complex cybersecurity challenges. Organizations will need to secure access to cloud resources and keep up with the fast-paced cloud transformation initiatives, creating demands for cloud-based or SaaS-based deployment options in PAM adoption. This shift-left culture will also require PAM vendors to incorporate cloud security features in their PAM portfolio.

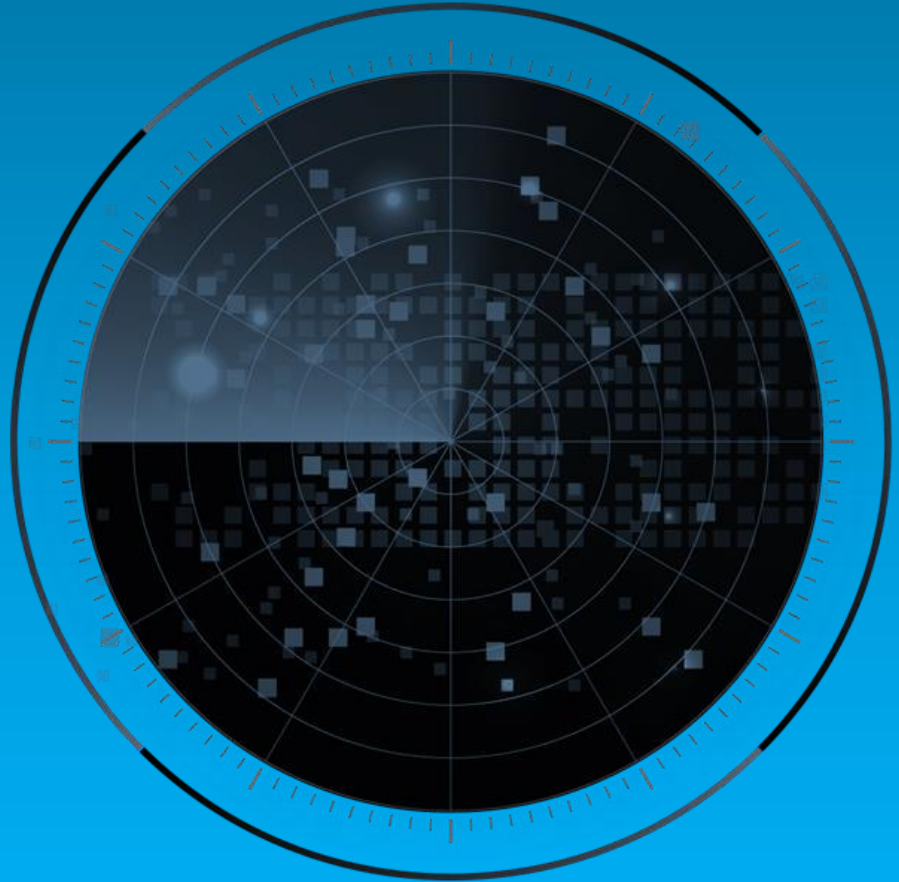
2

To differentiate themselves from the intense competition, vendors will need to offer intelligent security tools incorporating AI/ML for data-backed recommendations, real-time automated monitoring, automated analysis of session recordings, automated onboarding, or automated password management to reduce the window of exposure to vulnerabilities or threats. By leveraging AI/ML or advanced analytics across PAM technologies, organizations can evaluate and respond to risks more efficiently.

3

Organizations are looking for a more consolidated PAM approach, converging PAM and other security technologies with fewer point solutions to achieve operational simplicity. Customers increasingly seek an additional security layer around identity security or identity management by incorporating IGA and ITDR capabilities. PAM vendors expanding their PAM portfolios through converged functionalities and tight integration with additional technologies will stand out in the PAM market.

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.

III

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™

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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.

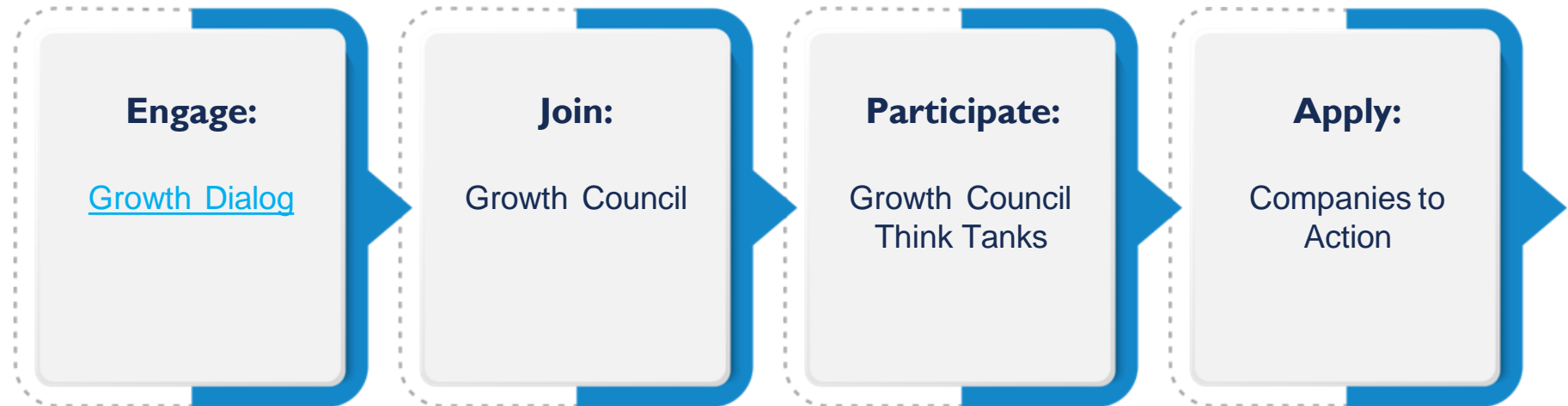
LEVERAGING THE FROST RADAR™

- 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?

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