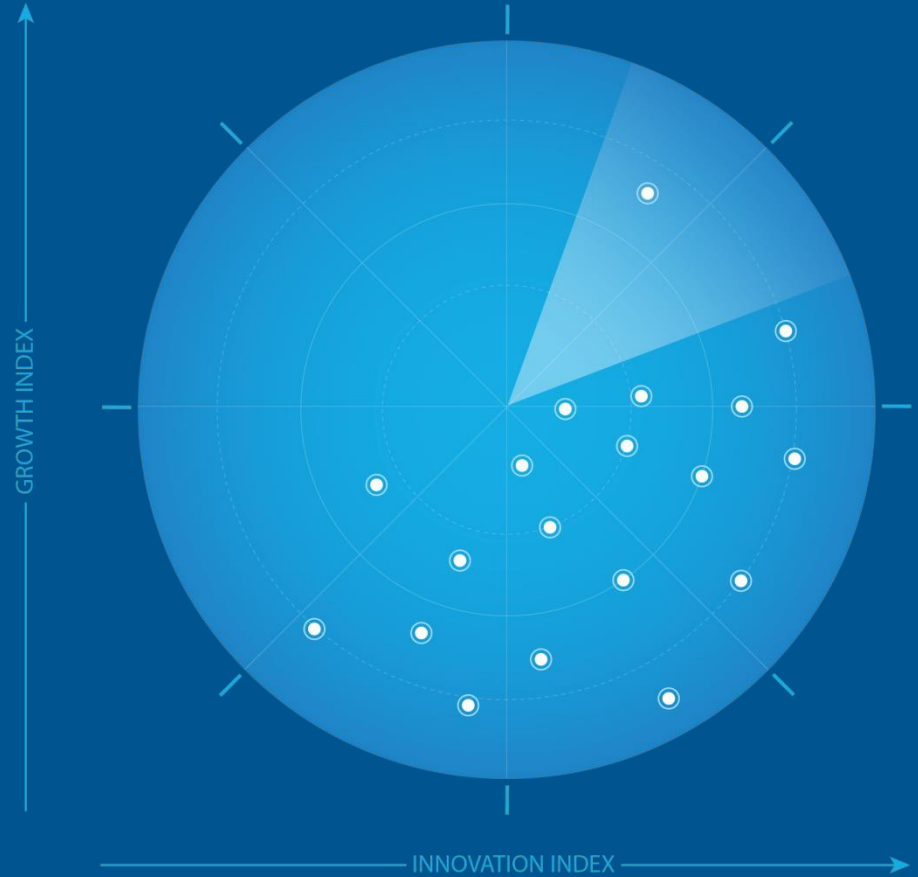# FROST & SULLIVAN

Frost Radar™: Global Healthcare Data Analytics, 2022

A Benchmarking System to Spark Companies to Action - Innovation That Fuels New Deal Flow and Growth Pipelines
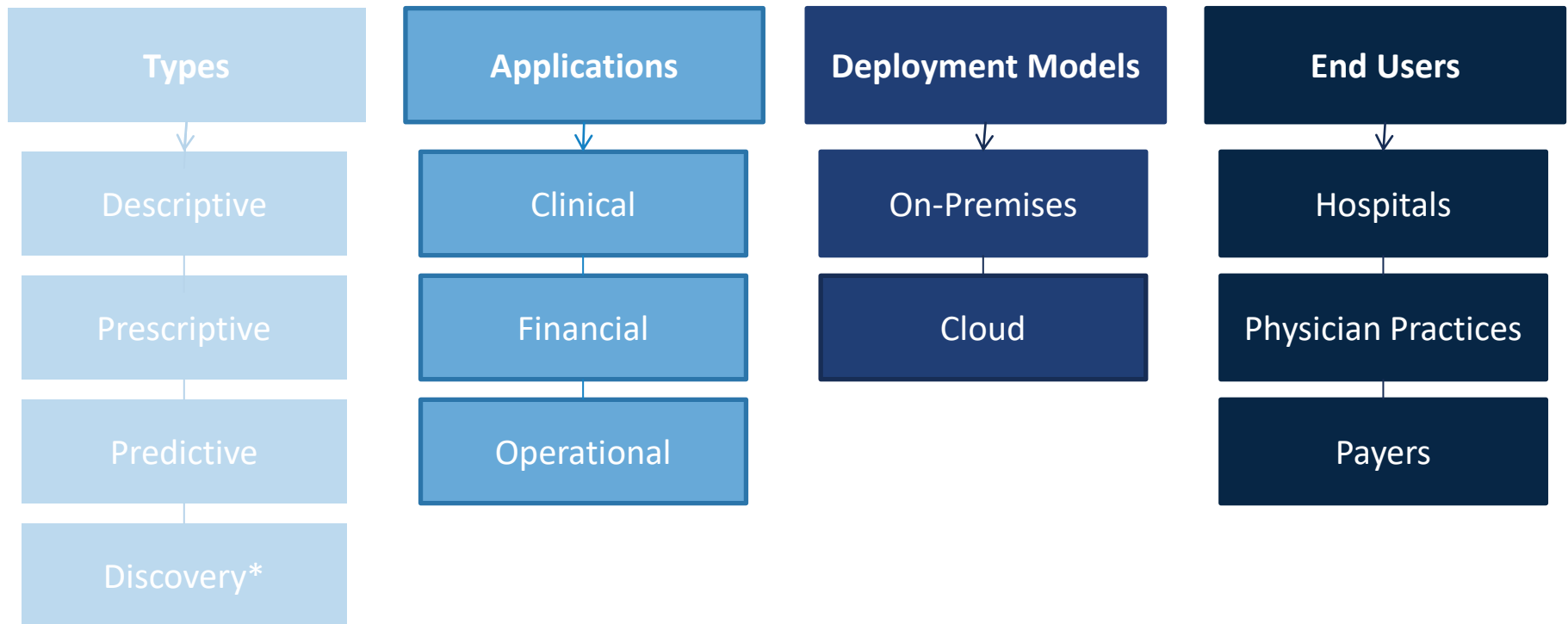
July 2022

Definition and Segmentation: Healthcare Data Analytics

Healthcare data analytics is an IT-enabled capability that allows end users to normalize disparate patient data and report personalized evidence for the purpose of improving operational efficiencies, eliminating preventable costs, and standardizing clinical diagnosis and reporting.

As this Frost Radar on Global Healthcare Data Analytics is focused on payers and providers solutions (including physician practices and hospitals), we will be excluding solutions targeting life sciences and pharmaceutical companies.

Healthcare Data Analytics Segmentation

Types	Applications	Deployment Models	End Users
Descriptive	Clinical	On-Premises	Hospitals
Prescriptive	Financial	Cloud	Physician Practices
Predictive	Operational		Payers
Discovery*			

*Discovery Analytics = Augmented Analytics + Embedded Analytics

Strategic Imperative and Growth Environment

Strategic Imperative

- Healthcare organizations must be able to manage, analyze and interpret data in order to identify strategic, tactical, and operational insights for decision making. This allows providers and payers to provide the best ways of delivering high quality care.

- There has been a slow but steady change in the healthcare industry at the very core of its business model. Industry participants are aiming for a preventive care model instead of conforming to only disease treatment. Hence, predictive analytics is of big interest at the moment.

- This trend towards a preventive care model has been deeply accelerated by the ongoing COVID-19 pandemic, where virtual care is gaining momentum and is expected to stay in the healthcare system, pushing it towards a hybrid model of care.

- The digitalization of healthcare is making health data increasingly available and accessible through disruptive technologies. This includes multiple sources, from clinical trials data and IoMT devices, to digitalized patient records (EHR), population health data, and SDoH. According to Philips, 30% of the world's data volume is generated by the healthcare industry alone (1). To leverage this availability, most healthcare payers and providers are looking into being and defining themselves as "data-driven".

SDoH: Social Determinants of Health

Source: 1. The biggest trends in healthcare are hospital care at home and the widening labor gap | Healthcare Finance News, Frost & Sullivan

Strategic Imperative

- Consumers, including payers and providers, want to solve their main challenges and reduce costs and time through analytics, while maintaining high quality and effective patient outcomes. The COVID-19 pandemic exacerbated the challenges of physician, nurse and staff burnout, making digital patient interaction and insights more valuable. More than half of consumers are looking for patient's care journey orchestration tools, chatbots, self-service patient scheduling, and payment solutions to smooth workflow and the first point of care.

- Health data analytics is key to ease administrative burden and legal requirements on payers and providers, and facilitate a more clear communication between them through data. With a transition towards value based care, and the ongoing development of reimbursement regulation, financial analytics such as price transparency tools and claims processing are in high demand. This has additionally led to many players in the market to offer value based care contracting services.

- The previously mentioned industry convergence towards a hybrid and patient-centric model leads clients to look for ways to augment patient engagement and to have an increasing interest in remote patient monitoring.

Growth Environment

- The COVID-19 pandemic accelerated the digitization of healthcare, which has impacted healthcare data analytics in the most positive way. The market is currently in its growth phase, and as healthcare organizations continue along their data-driven transformation journey, the market will experience a fast and steady growth.

- By 2025, clinical application analytics will likely have the greatest growth in the healthcare data analytics market, followed closely by the financial analytics application. Operational application analytics will experience proportionally smaller growth. This is due to the need of clinical analytics for improvement in value-based care.

- Frost & Sullivan studies related to this independent analysis:
  - US Population Health Management Growth Opportunities (K6A3/00)
  - Frost Radar™: Global Enterprise Health Cloud Infrastructure and Platform Services, 2021 (K6DD/00)
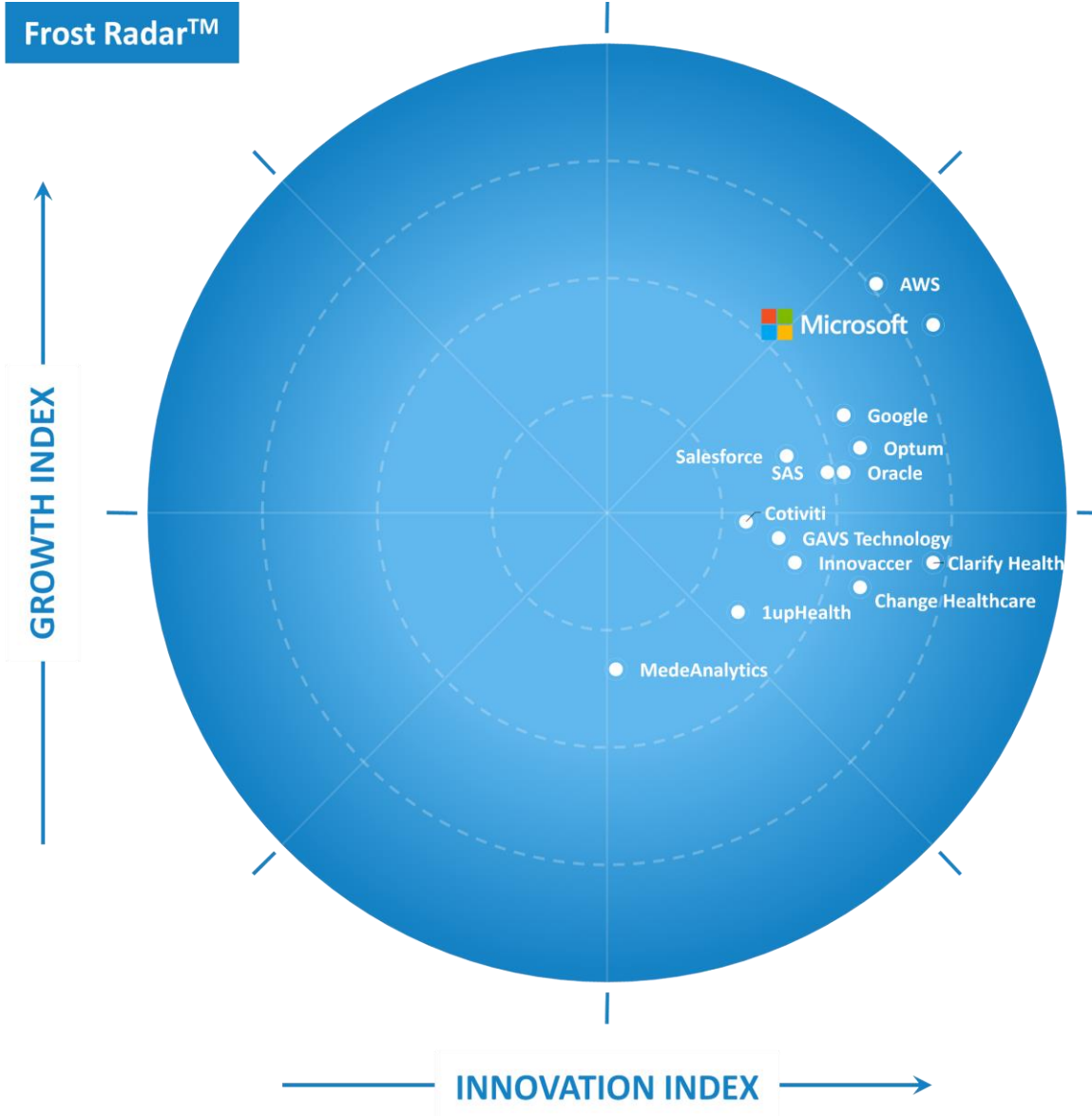
Source: Frost & Sullivan

Frost Radar™: Global Healthcare Data Analytics

Source: Frost & Sullivan

Frost Radar™
Competitive Environment

- In a field of more than 70 global industry participants, Frost & Sullivan independently plotted the top 13 companies in this Frost Radar™ analysis.

- The Frost Radar™ features 1upHealth, Amazon Web Services, Change Healthcare, Clarify Health, GAVS Technology, Google Cloud Platform, Innovaccer, MedeAnalytics, Microsoft Azure, Optum, Oracle, Salesforce, and SAS. While more than a dozen smaller companies either are exploring the market or have recently entered it, Frost & Sullivan has identified these 13 companies as the market powerhouses.

- The ability to offer customized, cloud-based implementation of data analytics tailored to each healthcare environment to enable payers and providers to offer a holistic and high quality delivery of care, including clinical analytics, social determinants of health (SDoH) analytics, population health management, and value based care analytics is emerging as a competitive requirement. As healthcare data analytics is becoming increasingly demanded for decision-making processes, service providers have been investing in differentiating themselves through complete tailored customer service, interoperability capabilities, depth of data availability and quality, and ease of staff burden.

- Microsoft Azure maintained its revenue share lead in the global healthcare data analytics market through 2018-2020. In 2021, AWS took the lead.

Source: Frost & Sullivan

Frost Radar™
Competitive Environment

- Achieving health equity and personalized care is the main vision for analytics solutions among providers. Other identified trends include:
  - Companies providing platform-as-a-service (PaaS), such as Microsoft, AWS, Salesforce, and Change Healthcare, have created their own cloud marketplace, where they offer third party solutions on healthcare data analytics. In the long run, marketplaces will likely be another competitive segment where third party exclusivity agreements and key M&A will take place.
  - Big ICT companies are leveraging their IT knowledge and are highly investing in AI and ML solutions, while smaller pure players are focusing on value based care.

- Overall, very few companies have outstanding differentiations in solutions to offer. Their value proposition does not lie in **what** they do, but rather in **how** they do it:
  - How much quality data can it process?
  - How does it use the data from platforms to actionable insights?
  - How many actionable insights can it provide?
  - How fast is it?
  - How economical is it?
  - How easy it is for the staff to use and comprehend?
  - How much time and cost reduction can it achieve?

Source: Frost & Sullivan

Frost Radar™
Competitive Environment

- Because of this value proposition, product and solutions branding is changing from pre-made package solutions to a completly customized experience, where the healthcare data analytics organization has an on-going discussion with its clients on **how** it will cater to its specific needs and meet them where they are.

- While customization is highly valued by customers, it takes a high cost in time and resources for organizations. Big ICT companies have the capacity to provide scalability and reach in their solutions due to their large infrastructure. However, pure players do not stay behind and have prove themselves to provide customization in their key areas of expertise in health data analytics, such as value based care analytics.

Source: Frost & Sullivan

Companies to Action:

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

Microsoft Azure

INNOVATION

- Microsoft is the clear leader in analytics development, scoring 5.0 in the innovation index, the highest in the Frost Radar.
- Its main solution is *Microsoft Cloud for Healthcare,* including *Microsoft Azure Synapse Analytics*. The 4 corporate analytics focus areas align with in the healthcare current demands: patient engagement, clinical experiences, care coordination and collaboration, and clinical/operational insights.
- Microsoft stands put in its AI capabilities, which include predefined built-in AI models, unstructured data information transformation, as well as *MLOps*, an operational platform key for managing models in healthcare.
- It counts with a common data model for healthcare which enables mapping data from different sources (Epic, Cerner) into a data model that allows to build analytics faster and remove costs of data transformation.

GROWTH

- Scoring 4.15 in growth, Microsoft recognizes physician burnout and provides administrative automation through Nuance *Dragon Ambient Experience*. It has also added *Azure API for FHIR* to support interoperability.
- It is currently working in distinguishing itself in risk and compliance from its competitors, alongside healthcare-specific data security standards , such as having purpose built platforms for PHI. It additionally provides data governance solutions on health metadata through *Microsoft Purview*.
- Microsoft has reinforced its healthcare partner ecosystem, and has expanded to retail, such as CVS Health.
- Through Nuance acquisition, Microsoft is currently investing in expanding its imaging and AI capabilities in *Microsoft Cloud for Healthcare*, providing clinical and conversational AI for physicians and for patient experience and engagement.

FROST PERSPECTIVE

- While Microsoft has a cloud-first approach, solutions like *Azure Arc* demonstrate Microsoft looks to meet clients where they are.
- Its key strengths reside in AI and imaging (Nuance), making its Azure AI Marketplace highly attractive.
- While Microsoft has successfully focused in product vendors and providers, Frost recommends looking into growth opportunities in the payer segment.
- A stronger marketing in AI imaging solutions is recommended, leveraging Nuance *Powershare* solution generated network in order to achieve a greater presence in the market as an AI company.

FROST & SULLIVAN

Strategic Insights

Strategic Insights

1
Avoiding data silos and guaranteeing interoperability and communication across the continuum of care are critical to the growth of the healthcare data analytics industry. Companies must aim at providing payers and providers a real-time 360-view of patient data, anytime, anywhere. Using FHIR will be the industry's minimum requirement in the long run. For payers, Frost recommends the integration of claims and clinical data to achieve personalized healthcare plans.

2
Frost & Sullivan finds the intention to ease physician burnout as one of the most urgent needs from clients, as it has been accelerated by the on-going COVID-19 pandemic. Companies who can offer high value healthcare data analytics without adding burden and time consumption to payers and providers staff, and are able to provide user-friendly platforms and actionable insights have emerged as the market leaders.

3
Value Based Care contracting tools alongside clinical and financial analytics help payers and providers go through the challenging transformation from the Fee-For-Service model to the Value Based Care model. Frost & Sullivan expects advanced predictive analytic tools and SDoH insights to remain a primary product evolution focus of the leading healthcare data analytics providers.

SDoH = Social Determinants of Health

Source: Frost & Sullivan

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	LEVERAGING THE FROST RADAR™	NEXT STEPS

- Solutions are increasingly complex and have long-term implications.

- Vendor solutions can be confusing.

- Vendor volatility adds to the uncertainty.

- 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.

- **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 & SULLIVAN

**Frost Radar™
Analytics**

85%

Frost Radar™: Benchmarking Future Growth Potential
2 Major Indices, 10 Analytical Ingredients, 1 Platform

GROWTH INDEX ELEMENTS

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.

- **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

INNOVATION INDEX ELEMENTS

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.

- **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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