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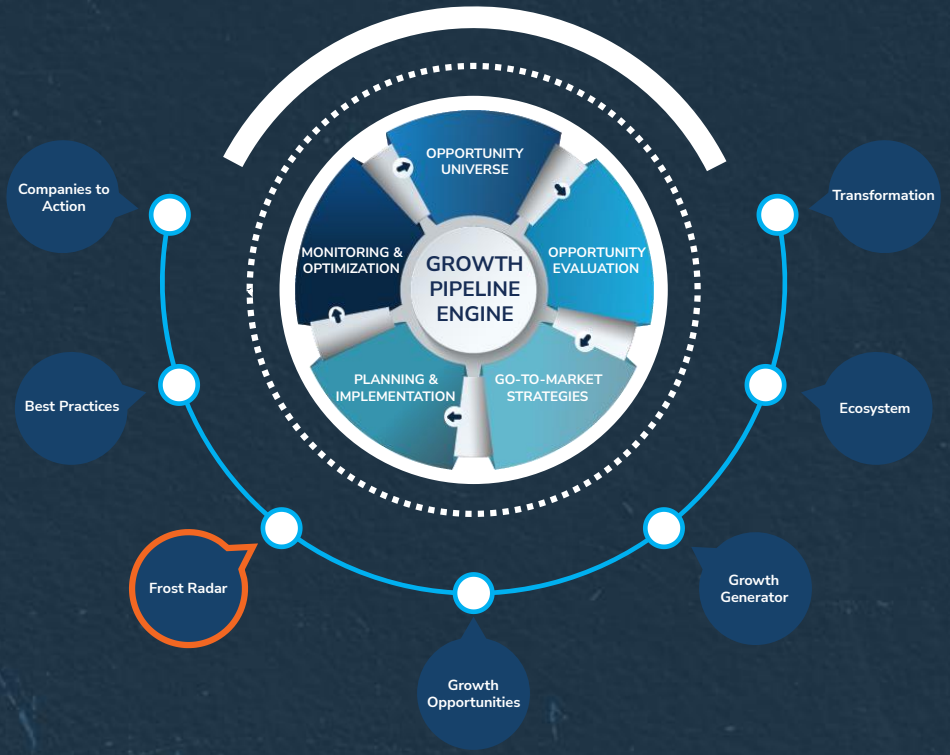
Frost Radar™: Artificial Intelligence-Enabled Clinical Trials, 2026

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



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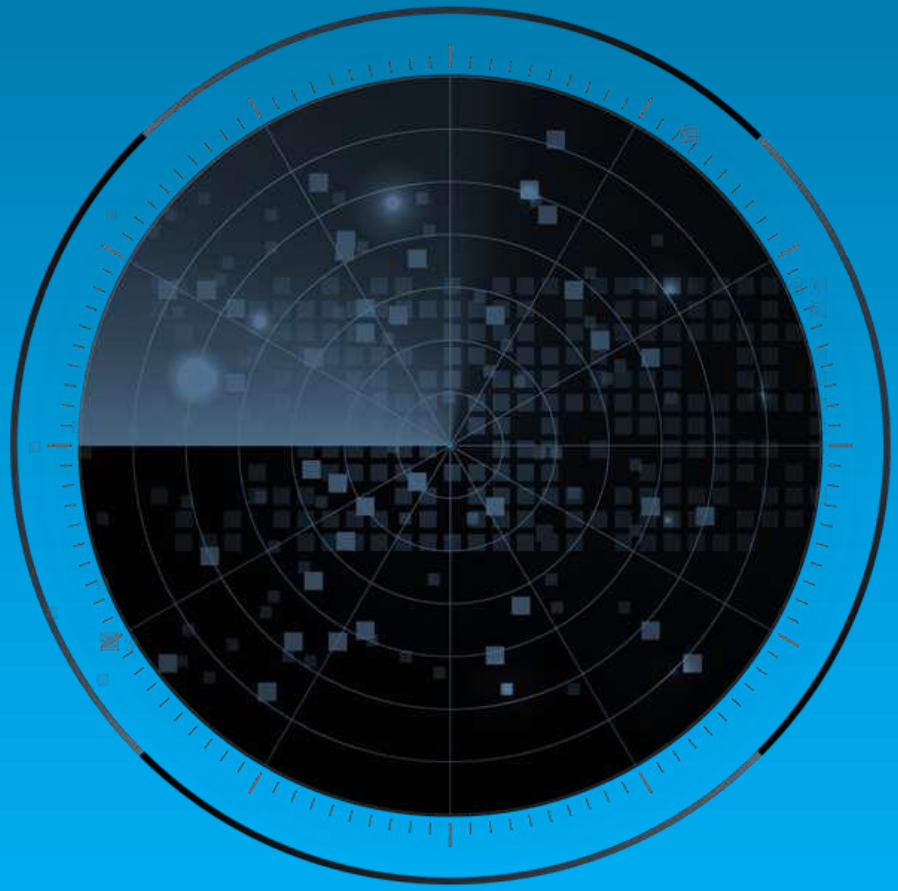
Strategic Imperative and Growth Environment



Source: Frost & Sullivan

Strategic Imperative

- The prevalence of cancer, central nervous system (CNS) disorders, and cardiovascular diseases is propelling clinical research, with more than 7,000 molecules in clinical development in all therapy areas, as per Citeline's Annual R&D Review, 2025.
- With surging clinical trial pipelines, the associated challenges pertaining to trial recruitment, patient adherence, and execution are impacting therapeutic outcomes. Technology platforms in the form of AI play an important role in streamlining trial workflows to achieve the desired outcomes.
- AI-based platforms are including cutting-edge solutions, such as digital twins and synthetic and external control arms, to improve trial efficiency and outcomes, especially in oncology trials requiring larger patient sample sizes. AI-powered platforms in clinical trials can improve compliance with trial protocols and the accuracy of endpoint assessment in the next 3 to 5 years.
- The pharmaceutical ecosystem, especially drug development, will continue to expand beyond the traditional sponsor/contract research organization (CRO) relationship with the ingress of technology vendors in the next 2 to 3 years. Cutting-edge AI drug discovery, development, and manufacturing solutions improve trial success rates and cost-effectiveness.
- Small to midsize and virtual biopharmaceutical companies are driving pharmaceutical innovation in the form of targeted therapies, resulting in more competition. Tech-enabled solutions are eliminating the need for lengthy and costly drug development processes through cutting-edge platforms.
- Biopharmaceutical companies will capitalize on AI-driven solutions to support their clinical research activities as trial diversity increases. The industry will witness more partnerships with AI vendors in the next 5 to 7 years, with a focus on improved compliance rates and reduced operational costs for clinical trials.

Source: Frost & Sullivan

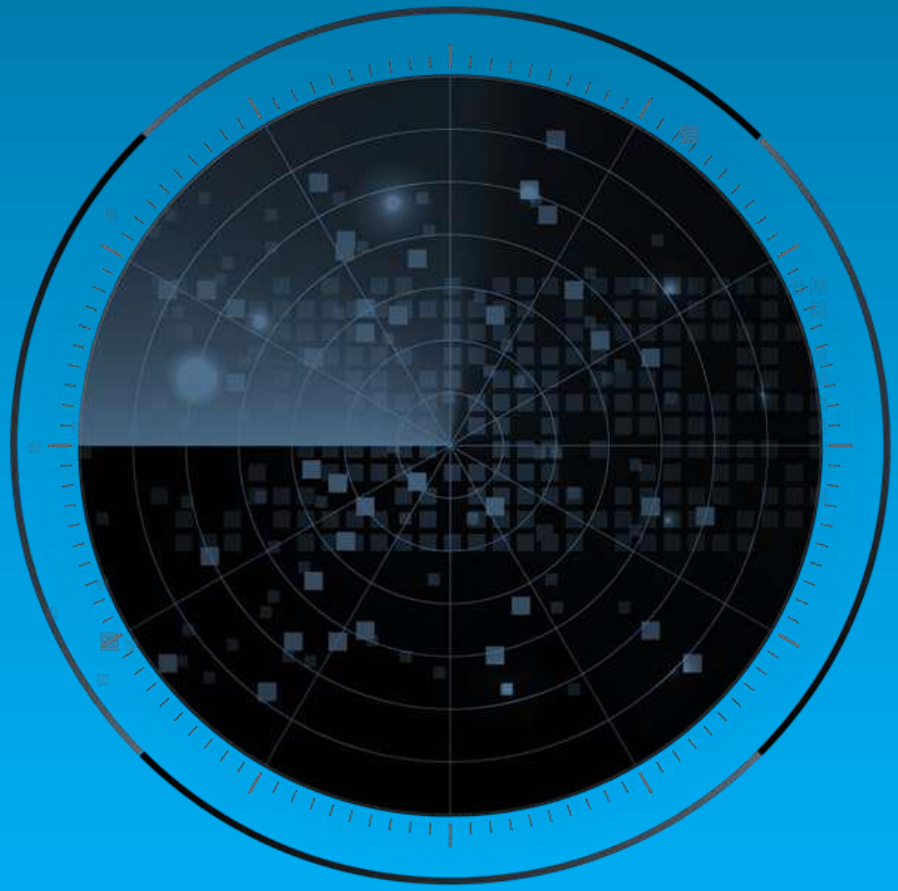
Growth Environment

- The drug development ecosystem is expanding, with the simultaneous reliance on pure-play technology vendors, AI platform providers, and medical device companies that can configure AI algorithms into their devices for clinical trial data collection, analysis, and patient monitoring and engagement. There is a surge in the volume of clinical trials (with more than 300,000 active), supported by developed markets and emerging countries in Asia-Pacific, the Middle East, and Africa that provide a 30 to 40% cost advantage.
- The AI-enabled clinical trials industry is gaining momentum as companies understand the value proposition of implementing technology in clinical research. This Frost Radar™ includes participants from various clinical research industry segments that stand out for their unique AI/ML-enabled platforms. Patient recruitment, regional regulations, and drug development costs are among the major clinical research challenges.
- With the industry focus on precision medicine and precision health, patient centricity has taken center stage, highlighting the importance of patient stratification. AI software identifies the right patient for the right trials through digital biomarkers from historical trials. For efficient trial outcomes, it is imperative to manage trial operations from protocol development and patient enrollment to monitoring and adherence. AI can ensure fewer patient dropouts with synthetic control arms, digital twins, and many other technologies.
- Because data is the core discipline of drug development, electronic medical records (EMRs) and real-world evidence/data (RWE/RWD) also support trial outcomes and improve drug efficiency. AI can create structured databases from disparate and unstructured sources, simplifying data assessment and enhancing trial safety and efficiency. Companies have become more open to new technologies through partnerships with AI vendors, leading to industry convergence and improved trial outcomes.

Source: Frost & Sullivan

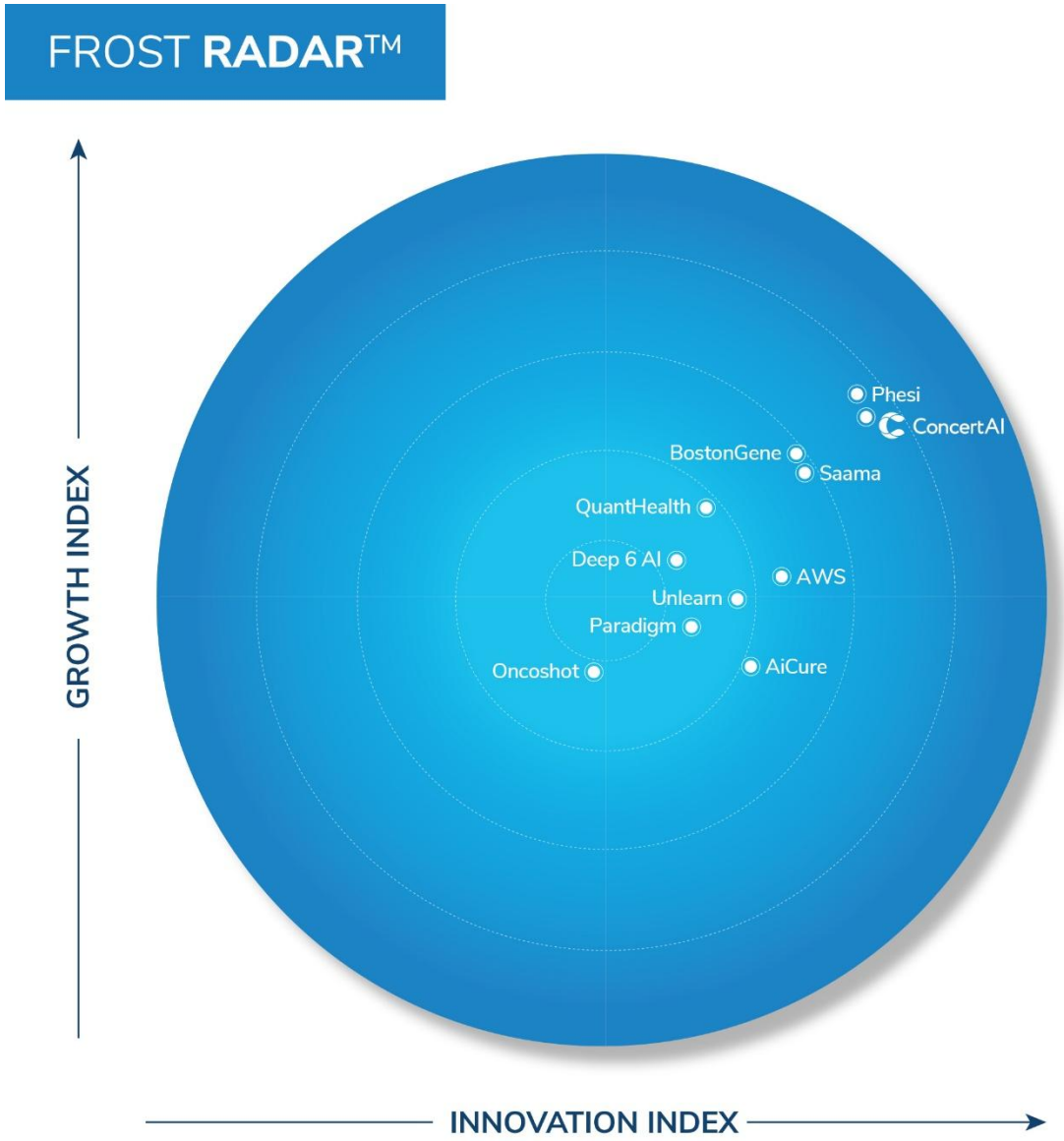
Frost Radar™

Artificial Intelligence-Enabled Clinical Trials



Source: Frost & Sullivan

Frost Radar™: Artificial Intelligence-Enabled Clinical Trials



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Source: Frost & Sullivan

Frost Radar™ Competitive Environment

- AI has been revolutionizing the technology-enabled drug discovery and development landscape. In clinical research, AI has been gaining traction across site selection, trial design and protocol optimization, and patient recruitment and management. With 80% of clinical trials not attaining the required patient recruitment and trial start-up delays, sophisticated generative and agentic AI-based technologies and real-world data and copilot-based large language models (LLMs) have been creating a stir across the landscape, providing real-time database access to target the right patient to the right clinical trial.
- To be considered for this Frost Radar™, companies had to meet following inclusion criteria:
  - A focus on integrating sophisticated AI technologies into the clinical trial stages, including patient identification, recruitment, site selection, protocol optimization, and many more.
  - Presence across at least 2 regions
  - Active partnerships with pharma/biopharma sponsors, CROs, and/or academic organizations
  - Revenue from the AI-based clinical trial platform licensing/subscription
- From more than 25 companies in the space, Frost & Sullivan selected 11 standouts that reflect a sharp focus on innovative AI technologies for clinical trial support and RWE generation and access and a goal to overcome the key challenges across the highly mature clinical trials industry.
- Five companies emerged as Innovation and Growth Index leaders (scored out of 5), reflecting their disruption potential with innovative platforms, active R&D investments, extensive pipelines and partnership landscapes, and widespread adoption.

Source: Frost & Sullivan

Frost Radar™ Competitive Environment (continued)

- ConcertAI, one of the leading vendors of AI-enabled clinical trial solutions, is backed by steady investor funding, with the most recent being the Series C round that raised more than $230 million. The company allocates annual research budgets devoted to real-world, multimodal data aggregation, multi-AI model orchestration, and generative AI validation in large-scale, live clinical trial settings. Its CancerLinQ™ has been recognized as a quality solution for clinical quality measures data by ASCO owing to its abilities in shortening clinical trial timelines by 4 to 20 hours per week, especially supporting critical oncology trials. In 2024, the company completed more than 1,000 RWD-enabled research projects for its biopharma customers and expanded its carve-out oncology network to include more than 5.5 million patient records.

Source: Frost & Sullivan

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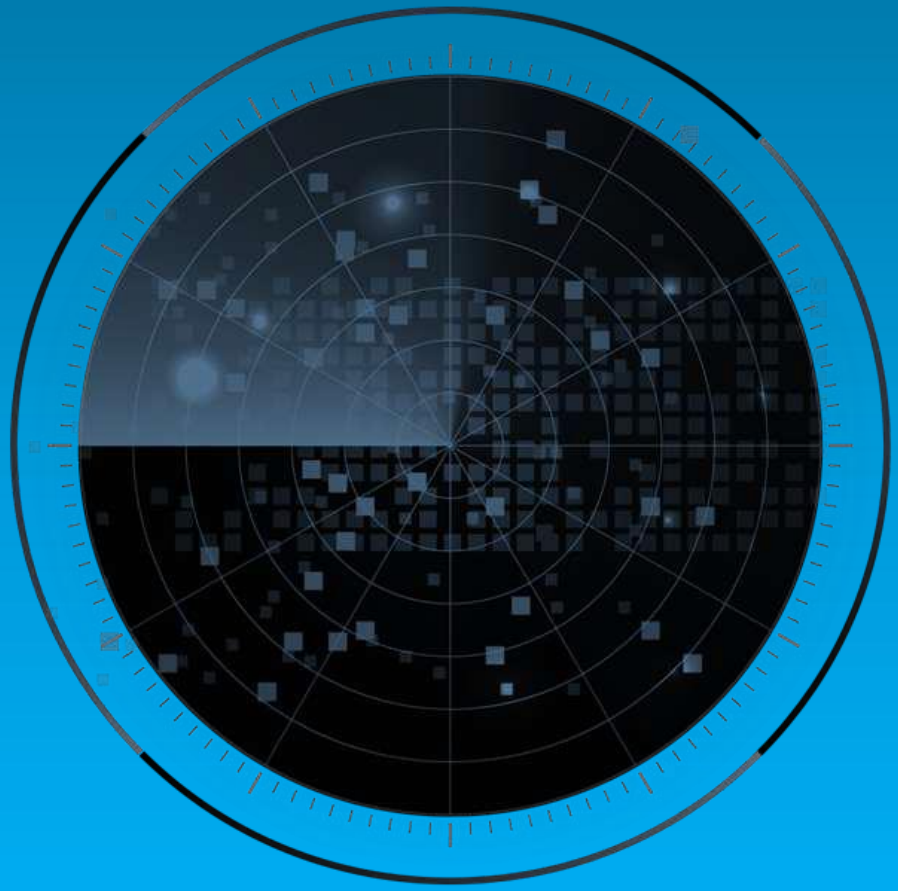
Frost Radar™

Companies to Action



Source: Frost & Sullivan

ConcertAI

INNOVATION

- ConcertAI is one of the key competitors in utilizing generative and agentic AI and proprietary RWD to transform clinical trial operations by enabling trial sponsors and research networks to expedite patient screening, optimize site selection, and automate end-to-end research workflows. The company specializes in research-ready data, alongside an impressive portfolio of clinical research platforms including the CARAai™ technologies, TeraRecon (for image visualization), automated QOPI and ASCO Certified® quality solutions, and the CancerLinQ Suite of services that includes quality measurements, SmartLinQ™ analytic services, cohort matching, and many more.
- The CARAai™ multimodal platform stands out for its applied integration, which leverages a proprietary architecture built on multiple small language models and LLMs alongside longitudinal clinico-molecular datasets, producing precise patient-to-trial matches for oncology trials while also addressing protocol design challenges that used to be solely based on EMR drivers.
- In May 2025, the company strengthened its portfolio of tech-enabled platforms with the launch of its Precision Suite™, which will be powered by the CARAai™ platform and utilize ConcertAI's integrated Oncology Data for developing rapid and personalized trial insights. In the suite, the Precision Trials ™ tool uses RWD with agentic and generative AI for clinical trial strategy optimization, protocol generation, precise site selection, and patient recruitment (Patient Matching solution), covering the entire value chain. Another launch included the Accelerated Clinical Trials (ACT) agentic AI product for site selection and trial optimization, further strengthening its position as one of leaders across the industry.
- In September 2025, TeraRecon, a provider of AI-enabled clinical workflows, advanced visualization, and interoperability solutions, surpassed 2,000 customers globally, underscoring ConcertAI's strategic emphasis on a cloud-first, SaaS-based solutions framework.

Source: Frost & Sullivan

ConcertAI (continued)

GROWTH

- With a strong suite of industry-specific solutions and platforms, accompanied by a long list of life sciences and healthcare industry clients, ConcertAI has been generating steady and sustainable avenues for consistent revenue growth, with over a 70% increase in gross bookings year on year from its comprehensive suite of RWE and clinical trial solutions.
- Other key contributors to revenue were the multitude of industry partnerships, which include TeraRecon's expanded partnership with 3DR labs for delivering of AI-enabled image post processing clinical services, NVIDIA (to build AI agents for oncology clinical trials), DeepHealth (for developing unified AI-powered diagnostic workspace), Guardant Health (for Cancer Therapy Data-Sharing) and many more that create steady revenue streams for the company and enhance its solutions. Its multiyear agreement with Bayer to develop precision oncology solutions in clinical development further reinvigorating its already solid footing across the precision oncology landscape.
- Its unwavering focus on growth is exemplified with the recent addition of many industry stalwarts, including Eron Kelly as the new chief executive officer, Dr. Shaalan Beg as chief medical officer, Casey Graves as general manager – clinical solutions, and Michael Myshrall as chief financial officer. They will expand its oncology network with industry KOLs and drive partnerships across the oncology trial ecosystem, building a steady growth trajectory for ConcertAI.
- The company has expanded to more than 1,000 clinical projects in oncology, hematology, radiology, and other therapeutic areas using its wide-ranging suite of solutions including CARAai ™ and Patient360 ™ DaaS, establishing itself as an AI-powered data partner of choice.

Source: Frost & Sullivan

ConcertAI (continued)

FROST PERSPECTIVE

- Massachusetts-based ConcertAI serves about 75% of the leading life science companies and over 50% of the largest global healthcare providers with the help of its unique blend of clinical research solutions and a strong oncology focus. With clinical trial diversity and inclusion at its core, ConcertAI boasts the world's largest oncology RWD, supported by more than 150 AI-based models, with all RWD models being a composite of EMRs, social determinants of health (SDOH), and medical claims.
- CARAai™ and CancerLinQ™ position it at the forefront of oncology clinical research, and the newly launched Precision Suite ™ will support its expansion across other therapy areas, including cardiovascular, metabolic, and autoimmune trials.
- The company must continue to participate in global events, including the UKIO conference and SCOPE 2025, as well as creating podcasts and participating in interviews and other panel discussions, to continue to build brand equity, credibility, and investor and client confidence.
- The company should also continue to leverage its combined, multimodal data platform and CARAai ™ suite that will help it integrate genomics, imaging, claims, and EMR data, creating a robust and comprehensive patient data ecosystem. With respect to its CRO partners, the company should continue to focus on its closed-loop model for partnering across ongoing trials to allow continuous optimization of trial protocols and mitigate execution risk.

Source: Frost & Sullivan

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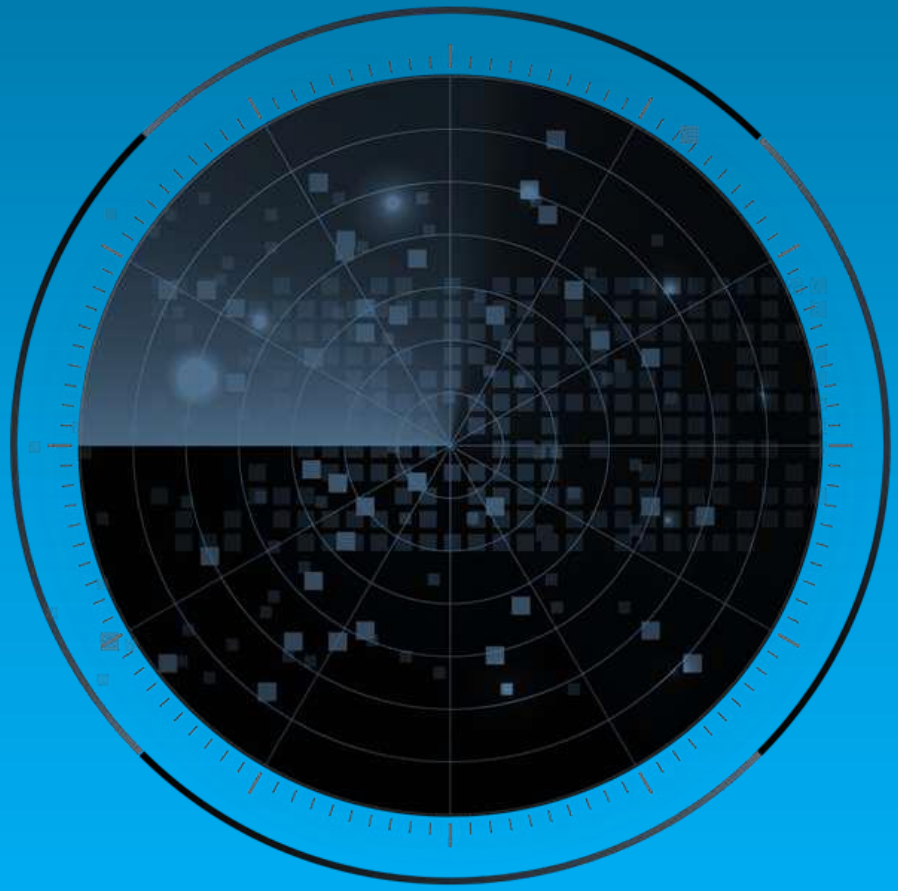
Best Practices & Growth Opportunities



Source: Frost & Sullivan

Best Practices

1. AI-based platforms are developing cutting-edge solutions, such as digital twins and synthetic and external control arms, to improve trial efficiency and outcomes, especially in oncology trials requiring greater patient sample sizes. Leveraging AI-powered platforms in clinical trials can improve compliance with trial protocols and the accuracy of endpoint assessments.

2. The pharmaceutical ecosystem, especially drug development, will continue to expand beyond the traditional sponsor/CRO relationship, with the ingress of technology vendors. AI vendors are creating a strong position with cutting-edge drug discovery, development, and manufacturing solutions, improving trial success rates and cost-effectiveness.

3. Biopharmaceutical companies will continue to capitalize on AI-driven solutions to support their clinical research activities as the diversity in trials increases. Tech-enabled solutions are eliminating the need for lengthy and costly drug development processes through cutting-edge platforms. The industry will witness more partnerships with AI vendors, with a focus on improved trial compliance and reduced operational costs.

Source: Frost & Sullivan

Growth Opportunities

1. As the number of clinical trials increases year over year, tremendous amounts of patient data in the form of EMRs are being generated. AI vendors with in-house LLM platforms must partner with local hospitals, clinical sites, diagnostic labs, and other provider networks to build patient databases. Small and midsize companies can partner with larger tech vendors to support in-house technology expansion.

2. AI vendors have developed LLM-based platforms for data sourcing, patient screening and identification, and recruitment so that companies can easily increase the geographic scope for patient identification based on phenotypes, genotypes, or cohorts.

3. Oncology trial cohort sizes, especially in the late stages, include thousands of patients in experimental and control groups. With companies moving toward adaptive trial designs, RWE-based endpoints provide a comprehensive evaluation of treatment benefits. AI vendors can partner with local and regional diagnostic and imaging centers, community networks, and central labs to build patient databases, and with RWE vendors for more specific patient genotypic and phenotypic databases.

Source: Frost & Sullivan

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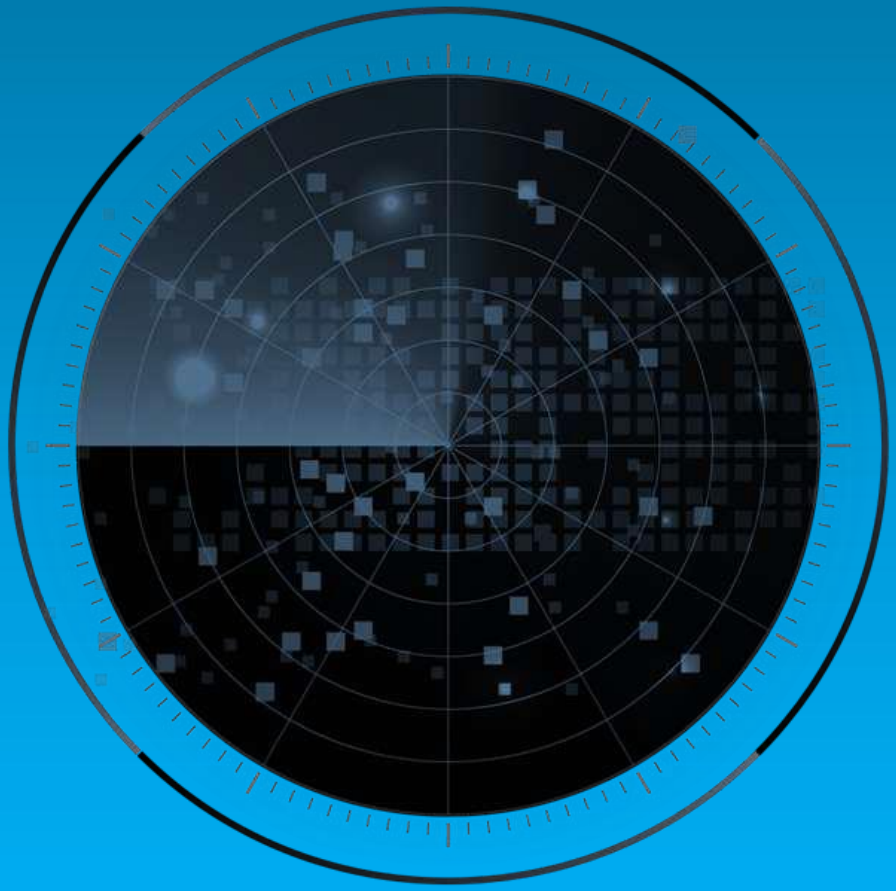
Frost Radar™ Analytics



Source: Frost & Sullivan

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.

Source: Frost & Sullivan

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

Innovation Index

Innovation Index (II) is a measure of a company's ability to develop products/ services/ solutions (with a clear understanding of disruptive megatrends) 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

MEGATRENDS 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 megatrends 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.

Source: Frost & Sullivan

Next Steps

JOIN:
Growth Council

APPLY:
Companies to Action

ENGAGE:
Growth Dialog

PARTICIPATE:
Growth Council Think Tank

Does your current system support rapid adaptation to emerging opportunities?

Source: Frost & Sullivan

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