BostonGene

2025 ENABLING TECHNOLOGY LEADER

Leveraging Vital Technology to Enhance Products and Applications

RECOGNIZED FOR BEST PRACTICES IN THE NORTH AMERICAN PRECISION ONCOLOGY DIAGNOSTICS INDUSTRY

FROST & SULLIVAN

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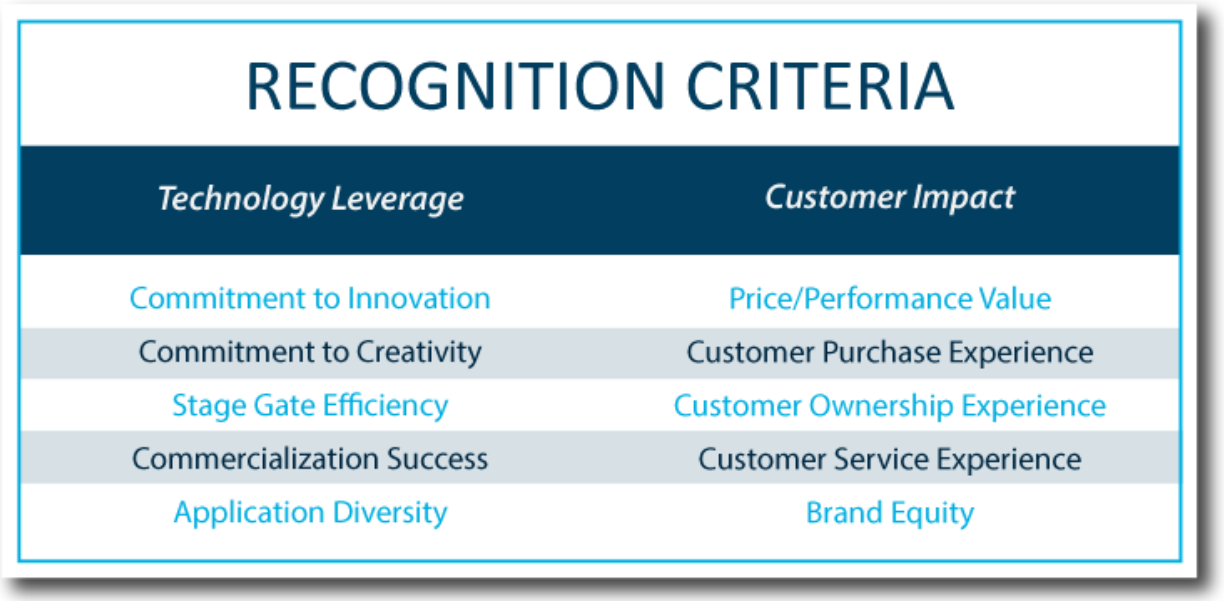
Best Practices Criteria for World-class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each recognition category before determining the final recognition recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. BostonGene excels in many of the criteria in the precision oncology diagnostics space.



Redefining Cancer Treatment: The Future of Precision Oncology

The precision oncology diagnostics market is undergoing transformative growth, driven by technological advancements, evolving clinical trial designs, and increasing awareness of personalized medicine's potential to revolutionize cancer care. Integrating artificial intelligence (AI), machine learning, and big data-based multiomics tools is central to this evolution, enabling the precise identification of genetic biomarkers and actionable targets. These advancements pave the way for personalized treatment strategies and innovative clinical approaches; however, significant challenges remain in scaling adoption to fully realize the potential of precision oncology diagnostics.

Technological innovations in biomarker discovery are among the primary drivers of the market's growth. Advances in high-throughput sequencing, liquid biopsies, and multiomics profiling tools have improved the ability to analyze tumor genetics, immune responses, and the tumor microenvironment. Additionally, novel diagnostic techniques for breast cancer (e.g., OncotypeDx and MammaPrint) and AI-enabled minimal residual disease detection platforms offer enhanced prognostic and predictive markers for clinical decision-making. These tools reduce sequencing time and cost, enable noninvasive tumor monitoring, and allow clinicians to identify precise subpopulations for tailored therapies. Clinical trial designs are also evolving, with innovative formats like umbrella, basket, and N-of-1 trials. These approaches focus on oncogenic driver mutations rather than cancer type, reducing inefficiencies, improving patient outcomes, and accelerating targeted therapy approvals.

The adoption of precision oncology is expanding across both developed and emerging markets. In developed regions, enhanced reimbursement models and advanced diagnostic tools drive growth, while emerging economies benefit from increased awareness of early detection and growing investment in research and development (R&D). Improved affordability and accessibility to genetic testing and targeted treatments are addressing disparities in care and broadening the market's reach.

Several barriers limit the adoption of precision oncology techniques. Challenges in acquiring, storing, and sharing high-quality biomaterials and clinical datasets obstruct the seamless integration of molecular testing and analysis. Data privacy and regulatory compliance further complicate the process. Therapeutic resistance and lack of response among cancer subpopulations highlight another challenge. Biological tumor complexity and an incomplete understanding of resistance mechanisms lead to insufficiently targeted therapies, often impeding treatment success. Similarly, barriers to clinical trial participation (including delays in molecular testing, inadequate insurance coverage, and financial burdens) limit real-world data collection, hindering biomarker discovery and validation. Addressing these challenges requires significant investment in data integration, scalable diagnostic platforms, and innovative therapeutic strategies.

> *"The National Institutes of Health has recognized BostonGene for developing state-of-the-art AI-driven next-generation analytics technologies, noting that the company is the only known source capable of delivering such comprehensive and integrated analysis. Leveraging these capabilities, BostonGene integrates diverse data types (e.g., clinical histories, genomic data, and immune and environmental factors) into high-complexity, multi-omic patient profiles."*
>
> ***- Unmesh Lal***
> ***Research Director***

Despite these obstacles, emerging opportunities signal a promising future for the precision oncology diagnostics market. AI and digital health technologies can improve cancer screening, diagnosis, and real-time monitoring of disease progression. Genetic testing and multi-cancer early detection techniques are advancing predictive accuracy, while breakthroughs in gene editing and cancer biology understanding are creating personalized therapeutic interventions targeting the molecular attributes of tumors. Furthermore, decentralized health initiatives and connected care approaches are streamlining the oncology patient journey, enabling faster diagnosis, and reducing patient touchpoints without compromising care quality.

Addressing systemic challenges in the oncology diagnostics market is crucial to optimize drug development and clinical trial success rates. The high cost and lengthy drug development timelines (up to 15 years and $1.4 billion per drug) underscore the need for integrated platforms capable of unifying disparate datasets, enabling accurate disease modeling, and identifying reliable biomarkers.[1] As industry players leverage interdisciplinary collaborations, scalable technologies, and patient-centric solutions, the potential to redefine cancer care becomes increasingly tangible. Specifically, BostonGene continues to address adoption barriers and foster innovation. Its precision oncology platform promises to deliver targeted, effective therapies that improve patient outcomes and set new standards for cancer treatment worldwide.

[1] "Why 90% of clinical drug development fails and how to improve it?" (National Institutes of Health: https://pmc.ncbi.nlm.nih.gov/articles/PMC9293739/#:~:text=Drug%20discovery%20and%20development%20is,approved%20for%20clinical%20use1)

BostonGene: Pioneering a New Era in Cancer Diagnostics and Therapeutics

BostonGene, a biotechnology company specializing in advanced computational biology and precision medicine, has revolutionized healthcare since its founding in 2015. Headquartered in Massachusetts, the company improves patient care and accelerates drug development through its AI-powered multiomics platform. This platform decodes cancer patients' molecular profiles, including their immune system and tumor microenvironment, to uncover key disease drivers, identify novel drug targets, and recommend the most effective treatments. BostonGene's platform comprises advanced bioanalytics, an indication-specific cancer library, and a next-generation Clinical Laboratory Improvement Amendments (CLIA)-certified and College of American Pathologists (CAP) -accredited high-complexity laboratory. The company delivers precise, clinically validated insights that drive precision medicine and advance oncology research. With a mission to transition healthcare to personalized medicine, BostonGene enhances the standard of care, reduces cancer treatment costs, and facilitates groundbreaking research.

Transforming Oncology with Precision, Innovation, and Speed

BostonGene is tackling oncology's most pressing challenges by providing a cutting-edge, comprehensive suite of analytical platforms that integrate and analyze complex datasets to derive actionable insights. It focuses on integrating clinical, genomic, and micro and macro-environmental data into a proprietary multiomic framework. This approach creates a "Comprehensive Digital Patient" model that enables clinicians and researchers to uncover disease-driving factors and identify personalized therapeutic options with unmatched precision and speed. By delivering insights that bridge the gap between complex molecular biology and practical clinical application, BostonGene is revolutionizing the precision oncology diagnostics market.



The National Institutes of Health has recognized BostonGene for developing state-of-the-art AI-driven next-generation analytics technologies, noting that the company is the only known source capable of delivering such comprehensive and integrated analysis. Leveraging these capabilities, BostonGene integrates diverse data types (e.g., clinical histories, genomic data, and immune and environmental factors) into high-complexity, multiomic patient profiles. This seamless data synthesis enables the

company to identify consistent molecular patterns across large patient cohorts, highlighting critical biomarkers and actionable disease signals.

These insights enable clinicians to predict therapeutic responses while pharmaceutical companies leverage the data to optimize drug development strategies. For clinicians, BostonGene's clinical assays return actionable reports within an expedited 10-12-day timeframe, linking molecular findings directly to approved therapies.[2] These assays, implemented at leading cancer centers such as MD Anderson Cancer Center, have become critical tools in advancing patient care.[3] For pharmaceutical partners, BostonGene's platforms enhance trial designs, identify targetable populations, and reduce failure rates, expediting the journey from discovery to drug approval.

BostonGene's innovative technologies deliver value across the oncology ecosystem. Its precision diagnostics streamline treatment selection, reducing unnecessary therapies and lowering costs for healthcare payers while replacing redundant diagnostic processes with a single, unified approach. One of the company's flagship platforms, the BostonGene Tumor Portrait™, exemplifies its transformative impact. By combining DNA and RNA sequencing with AI-powered analytics, this platform generates detailed tumor profiles that identify somatic mutations, tumor microenvironment characteristics, and immune responses. The resulting insights inform personalized therapeutic recommendations delivered within an industry-leading turnaround time.

BostonGene pioneered the interpretation of expression profiles and immune composition in clinical testing, achieving a milestone as the first CLIA/CAP-approved RNA-seq for gene expression and signatures in the United States in 2021. This breakthrough marked the foundation of BostonGene's initial success.

A vast DataVerse of collected patients' molecular profiles fuels BostonGene's AI-driven models, which stratify patients' molecular subtypes to particular therapies. The real-world clinical database further enriches this ecosystem, providing a comprehensive view of patient molecular profiles, including whole exome sequencing, immune system profiling, and treatment histories.

BostonGene's end-to-end solutions for biomarker discovery and drug development integrate data from internal labs, external sources, and the Dataverse to deliver signature discovery, predictive modeling, and biomarker validation. Developed software products enable functional predictions identifying patient groups most likely to benefit from specific therapies or novel compounds. These capabilities allow BostonGene to mine internal and customer big data for insights that accelerate biomarker discovery and identify new avenues for drug development.

Reliability and accuracy are central to BostonGene's mission. With a high testing success rate of 99%, failures are attributable to external factors (such as damaged or inadequate samples).[4] Even in these instances, BostonGene applies advanced protocols to rescue the tissue.

BostonGene demonstrates its commitment to scientific rigor by participating in high-profile clinical trials. For example, in an ongoing randomized 400-patient study with a leading cancer center, the company is comparing its Tumor Portrait™ platform against the current standard of care assay. The study aims to showcase the clinical utility and advantages of incorporating RNA sequencing into a broad panel test, with multi-modal biocomputing results delivered to physicians in an easily readable format, summarized by AI.

[3] Frost & Sullivan Interview with BostonGene (November 2024)
[4] "Tumor Portrait™ test" (BostonGene website: https://bostongene.com/providers/tumor-portrait)

The blinded nature of the study reflects BostonGene's confidence in surpassing existing care standards and underscores its dedication to transparency and accountability.

By leveraging advanced analytics, rapid turnaround times, and rigorous validation protocols, the company ensures that clinicians, researchers, and pharmaceutical partners can make informed, data-driven decisions. As BostonGene continues to expand its capabilities and partnerships, it is well-positioned to redefine cancer care, improving patient outcomes and accelerating the development of life-saving therapies.

Driving Innovation in Drug Development with AI-Powered Solutions

BostonGene's innovative multi-modal foundational AI solutions gained significant momentum within the pharmaceutical and biotechnology industries, receiving exceptional feedback from both sectors. By integrating multiomic data—including genomics, transcriptomics, proteomics, tumor microenvironment, and immune system analysis—BostonGene's genAI-powered platform provides a comprehensive understanding of disease biology in the patient as a complete system. This enables its partners to enhance the Probability of Technical Success (PTS) throughout the entire drug development lifecycle, from target identification, functional modeling, and mechanics of action in preclinical studies to biomarker discovery, patient stratification, and trial optimization in later clinical phases. BostonGene's solutions drive efficiency, reduce costs and accelerate timelines, thereby improving the likelihood of regulatory success.

> *"By delivering highly tailored solutions, accelerating project timelines, and driving innovation through its advanced analytical capabilities, BostonGene is fundamentally transforming the oncology diagnostics market. Its unmatched ability to adapt to client-specific needs, coupled with rigorous validation protocols and swift project execution, has established the company as a trusted partner for leading academic institutions, pharmaceutical giants, and emerging biotech firms."*
>
> ***- Manuel Albornoz***
> ***Best Practices Research Analyst***

While BostonGene has primarily applied its AI solutions to specific stages of drug development, such as clinical trial optimization, biomarker discovery, and elucidating mechanisms of action, its theoretical models indicate significant potential for generating a substantial return on investment across the entire pipeline. Collaborations with leading cancer centers, global pharmaceutical leaders, and innovative biotech companies have demonstrated BostonGene's capacity to reduce late-stage failures, minimize trial sizes, and shorten time-to-market for breakthrough therapies. These promising outcomes underscore BostonGene's potential as a trusted partner in the industry, poised to drive innovation and deliver measurable success for drug developers worldwide.

Empowering Collaboration for Tailored Solutions and Tangible Impact

BostonGene has established itself as a leader in precision oncology by promoting its platform's widespread adoption across academic institutions, clinical centers, and pharmaceutical companies. Its collaborations with top-tier academic institutions such as the Broad Institute, Mayo Clinic, MD Anderson Cancer Center, and Memorial Sloan Kettering Cancer Center ensure robust clinical validation and scientific

rigor.[5] Simultaneously, collaborations with leading pharmaceutical companies, as well as innovative biotech firms, showcase its ability to optimize drug development pipelines, stratify patient populations, and identify novel biomarkers.[6]

Regular feedback from physicians, patients, and pharmaceutical partners ensures that BostonGene's offerings align with clinical and industry needs. Initially, its broad and complex messaging left pharmaceutical collaborators uncertain about technology implementation. In response, BostonGene shifted to a more targeted approach, designing specific pilot projects that address distinct challenges like drug mechanism elucidation or response rate optimization. This tailored strategy ensures its platforms meet precise client objectives without compromising technological breadth.

In addition to its success with pharmaceutical partners, BostonGene has proven to be a vital collaborator for mid-sized and small biotech firms. The company consistently empowers biotechs to accelerate research, validate biomarkers, and optimize clinical trials. A standout example is its partnership with LigoChem Biosciences, where BostonGene condensed a diagnostic signature development timeline from years to mere months.[7] Projects with leading biotech organizations highlight BostonGene's capacity to tailor its solutions to biotech-specific needs, de-risk R&D investments, and enhance therapeutic precision.[8]

Moreover, the company's proactive approach to addressing unmet needs in regulatory alignment and payer collaboration is instrumental in driving adoption. BostonGene's pursuit of Food and Drug Administration (FDA) and National Comprehensive Cancer Network approvals has strengthened its platform's credibility and acceptance, paving the way for broader payer adoption and reimbursement. These efforts ensure its cutting-edge technologies remain accessible to a diverse spectrum of patients and providers while adhering to the highest standards of clinical compliance and regulatory integrity.

"Together, we are working to identify novel biomarkers and develop next-generation therapies for a true personalized approach to cancer care."

- David Ting, MD.[9]

"A tumor 'personality' test: the BostonGene Tumor Portrait™ serves as a roadmap to guide treatment decision-making."

- Christina Curtis, PhD, MSc.[10]

"Through BostonGene, we are utilizing multiparametric discovery and big data analytics to uncover and validate biomarkers of therapeutic response."

- Funda Meric-Bernstam, MD.[11]

[5] "Partnerships with leading pharma, academic medical centers and foundations" (BostonGene website: https://bostongene.com/about-us/partners)
[6] Ibid.
[7] Frost & Sullivan Interview with BostonGene (November 2024)
[8] Ibid.
[9] "Testimonials" (BostonGene website: https://bostongene.com/about-us)
[10] Ibid.
[11] Ibid.

"Through this collaboration we look forward to utilizing data and AI to gain more insights into the biology and mechanisms of investigational therapies at the earliest stages. These data will help us to better understand their potential in certain patient populations and ultimately help advance oncology medicines for patients who need them."

- PK Morrow, MD, Head, Oncology Therapeutic Area Unit at Takeda

"Our collaboration with BostonGene has provided in-depth information on patient phenotypes in the Phase I trial. It has allowed us to understand the baseline status of our patients and how the tumor micro-environment (TME) might evolve following treatment,"

- Dr. Alessandro Riva, Chairman and CEO of Transgene

By delivering highly tailored solutions, accelerating project timelines, and driving innovation through its advanced analytical capabilities, BostonGene is fundamentally transforming the oncology diagnostics market. Its unmatched ability to adapt to client-specific needs, coupled with rigorous validation protocols and swift project execution, has established the company as a trusted partner for leading academic institutions, pharmaceutical giants, and emerging biotech firms.

Building a Mission-Driven Culture That Inspires Excellence

BostonGene's success as a leader in precision oncology stems from its mission-driven approach to human capital. By emphasizing its transformative vision, empowering teams with autonomy, and creating a collaborative and inclusive culture, BostonGene ensures high employee motivation, innovation, and retention. For instance, BostonGene's leadership emphasizes its potential to improve patient outcomes through direct storytelling. The company facilitates interactions between employees and patients during meetings, allowing patients to share their cancer journeys and testimonials on how BostonGene's technologies contributed to their care. This practice offers employees a unique perspective and serves as a powerful motivator that reaffirms the significance of their work. The company also hosts "Meet the Expert" panels featuring oncologists and academics who present case studies and cutting-edge developments in oncology. These sessions educate employees about advancements in the field while reinforcing the importance of BostonGene's role in driving progress.

"After thinking I was out of options, I'm now responding positively to targeted immunotherapy based on my Tumor Portrait™, proving that it's never too late for new beginnings."

- Joan, Triple-negative breast cancer.[12]

"Thanks to the Tumor Portrait™ test, I received personalized immunotherapy, turning my cancer journey into a story of hope and healing."

- Kenji, Prostate adenocarcinoma.[13]

"BostonGene Genomic testing can help save your life like it has saved mine."

- Mariela, Metastatic papillary thyroid cancer.[14]

BostonGene also empowers its employees by fostering a culture of innovation and flexibility. Teams commonly pitch and develop research projects, with the company providing resources and support for

[12] "Personalized care begins with precision diagnostics" (BostonGene website: https://bostongene.com/)
[13] Ibid.
[14] Ibid.

promising ideas. This autonomy cultivates an environment akin to a university research setting, where employees can explore their interests while contributing to BostonGene's overarching goals. Employees then present and publish their findings, reinforcing a sense of ownership and accomplishment.

2024 Announced Industry Collaborations

Fujita Health University[15]: BostonGene's partnership with Fujita Health University in Japan marks a significant milestone in genomic cancer testing. Through the introduction of its Tumor Portrait™ test at the Haneda Clinic, BostonGene provides oncologists with a comprehensive analysis of DNA and RNA sequencing data integrated with clinical profiles. This test identifies actionable mutations, immune system interactions, and predictive biomarkers, enabling tailored treatment recommendations for patients.

Sarah Cannon Research Institute[16]: BostonGene has partnered with the Sarah Cannon Research Institute (SCR*) to integrate its Tumor Portrait™ test into SCRI's precision medicine platform. This collaboration enhances phase 1 oncology clinical trials by improving patient stratification and optimizing trial enrollment. By incorporating advanced molecular profiling, such as human leukocyte antigen genotyping and microenvironment analysis, BostonGene enables more precise pre-screening of patients for clinical trials.

Mount Sinai[17]: BostonGene's collaboration with the Icahn School of Medicine at Mount Sinai focuses on uncovering therapeutic vulnerabilities in multiple myeloma (MM) through advanced next-generation sequencing. The company delivers Mount Sinai researchers deep insights into tumor molecular characteristics and immune interactions. This partnership aims to identify novel biomarkers and develop personalized therapies that improve MM patient outcomes.

ComboMATCH Collaboration[18]: BostonGene serves as a designated laboratory for the ComboMATCH trial, led by the NCI and ECOG-ACRIN Cancer Research Group. The trial builds on the NCI-MATCH initiative by addressing drug resistance through targeted therapy combinations tailored to tumor biology. BostonGene's Tumor Portrait™ test, powered by next-generation sequencing, identifies genetic alterations and stratifies patients for personalized treatments. This collaboration underscores BostonGene's role in advancing precision medicine and improving outcomes for patients with advanced solid tumors.

Takeda Oncology[19]: In partnership with Takeda Oncology, BostonGene is leveraging its multiomics analytics to enhance immunotherapy research. This collaboration focuses on identifying biomarkers linked to treatment efficacy and toxicity, optimizing patient selection, and accelerating drug development. BostonGene's integration of advanced data analysis techniques, including flow cytometry and RNA sequencing, equips Takeda with valuable insights into immune checkpoint inhibitors and other therapies.

[15] "Fujita Health University and BostonGene Expand Access to Genomic Cancer Testing with Tumor Portrait™ at Haneda Clinic" (BostonGene press release, October 2024)
[16] "BostonGene and Sarah Cannon Research Institute Collaborate to Accelerate the Development of Targeted Cancer Therapies and Improve Patient Outcomes" (BostonGene press release, October 2024)
[17] "BostonGene and Mount Sinai to Collaborate on a Prospective Precision Medicine Study of Patients with Multiple Myeloma" (BostonGene press release, September 2024)
[18] BostonGene Recognized as Designated Laboratory for the ComboMATCH Precision Medicine Clinical Trial (BostonGene press release, March 2024)
[19] "BostonGene Announces Partnership with Takeda to Evaluate Immunotherapies Using AI-Powered Molecular Profiling" (BostonGene press release, August 2024)

Duke University[20]: BostonGene and Duke University School of Medicine have partnered to advance research across lung, gastrointestinal, genitourinary, and skin cancers. Using BostonGene's AI-driven molecular profiling, the collaboration analyzes tumors, microenvironments, and immune systems to guide personalized treatments. A flagship study on metastatic non-small cell lung cancer aims to identify predictive biomarkers for immunotherapy precision. Together, BostonGene and Duke push the boundaries of biomarker discovery and deliver transformative advancements in cancer care.

Saga University[21]: BostonGene's collaboration with Saga University in Japan focuses on identifying biomarkers that enhance the efficacy of immune checkpoint inhibitors in non-small cell lung cancer patients with epidermal growth factor receptor (EGFR) mutations. By analyzing the tumor microenvironment and its response to EGFR-tyrosine kinase inhibitor therapy, the study aims to refine combination therapy strategies and improve outcomes for resistant patient populations.

Sylvester Comprehensive Cancer Center[22] and Parker Institute for Cancer Immunotherapy[23]: These strategic collaborations focus on advancing hematological cancer diagnostics and pioneering breakthroughs in immunotherapy research. These partnerships are pivotal in validating novel biomarkers, refining diagnostic accuracy, and providing actionable insights into treatment resistance and toxicity, transforming the landscape of personalized oncology care.

2024 Publications

On top of these collaborations, BostonGene features prominently in high-impact publications, highlighting its contributions to oncology and multiomic analysis. *Cancer Cell* highlights BostonGene's immune profiling platform, which uses a blood-based test to stratify cancer patients by therapy response through peripheral blood immunological variations.[24] In *Nature*, BostonGene, in collaboration with institutions such as Memorial Sloan Kettering and Dana-Farber, reveals gene expression patterns and tumor evolution dynamics that improve outcomes and reduce toxicity in relapsed/refractory T-cell lymphomas.[25]

In *Gastroenterology*, BostonGene's collaboration with the Medical College of Wisconsin identified four tumor microenvironment subtypes in pancreatic ductal adenocarcinoma, aiding personalized treatments.[26] Research with the National Cancer Institute and National Institute of Allergy and Infectious Diseases in *Cancer Cell* highlighted multiomic approaches to uncover progression and therapeutic

[20] BostonGene and Duke University Announce Master Collaboration Agreement (BostonGene press release, January 2024)
[21] "BostonGene and Saga University Announce Collaboration to Uncover Biomarkers for Improved Immunotherapy Response in Lung Cancer Patients" (BostonGene press release, April 2024)
[22] "BostonGene and Sylvester Comprehensive Cancer Center at the University of Miami Collaborate to Advance Care for Cancer Patients" (BostonGene press release, July 2024)
[23] "BostonGene and the Parker Institute for Cancer Immunotherapy Collaborate to Generate Comprehensive Longitudinal Multi-Omic Data for Predicting Immunotherapy Outcomes" (BostonGene press release, April 2024)
[24] "BostonGene Announces Publication and Journal Cover Feature in Cancer Cell that Unveils a New Immune System Profiling Platform Stratifying Cancer Patients by Treatment Response" (BostonGene website: https://bostongene.com/news-and-publications/news/bostongene-announces-publication-and-journal-cover-feature-in-cancer-cell-that-unveils-a-new-immune-system-profiling-platform-stratifying-cancer-patients-by-treatment-response)
[25] "BostonGene and Leading Global Cancer Institutions Announce Nature Publication" (BostonGene website: https://bostongene.com/news-and-publications/news/bostongene-and-leading-global-cancer-institutions-announce-nature-publication)
[26] "BostonGene and the Medical College of Wisconsin Announce the Publication and Journal Cover Feature in Gastroenterology Highlighting Transcriptomic-Based Tumor Microenvironment Classification for Precision Medicine in Pancreatic Cancer" (BostonGene website: https://bostongene.com/news-and-publications/news/bostongene-and-the-medical-college-of-wisconsin-announce-the-publication-and-journal-cover-feature-in-gasteroenterology-highlighting-transcriptomic-based-tumor-microenvironment-classification-for-precision-medicine-in-pancreatic-cancer)

outcomes in follicular lymphoma.[27] In *Nature*, BostonGene explored an oncolytic herpes virus in a first-in-human trial for recurrent glioblastoma. These publications cement BostonGene's leadership in leveraging multiomics to advance cancer care.[28]

BostonGene envisions a future defined by scaling its groundbreaking oncology diagnostic solutions and broadening its influence across clinical and pharmaceutical sectors. Key initiatives include deepening integration with healthcare systems, refining and expanding test offerings in response to market feedback, and leveraging the results of ongoing validation studies to accelerate adoption. The company is also intensifying its pharmaceutical collaborations, underscored by an impressive 600% increase in pharmaceutical revenue in 2024, highlighting its growing role as a critical partner in drug development and precision medicine.[29] Regulatory milestones, including FDA and International Organization for Standardization certifications, will further strengthen BostonGene's global footprint and ensure broader adoption of its technologies.

Finally, by investing in infrastructure, strengthening cybersecurity, and supporting original research, BostonGene aims to maintain its leadership in oncology diagnostics. Frost & Sullivan finds that BostonGene is well-positioned to shape the future of precision oncology, improving patient outcomes and accelerating the development of life-saving therapies.

Conclusion

Technology integration is a transformative force in the precision oncology diagnostics industry. However, amidst the complexity of cancer care and drug development, stakeholders must adopt technologies that generate actionable, life-changing insights. BostonGene has redefined this standard through its artificial intelligence-driven multi omics platforms, delivering unprecedented precision in patient profiling and therapeutic selection while revolutionizing the pace and efficiency of biomarker discovery. BostonGene's Dataverse system empowers pharmaceutical companies to uncover disease-driving mechanisms and optimize drug pipelines, reducing the high failure rates that have plagued oncology trials for decades.

BostonGene's bold approach to innovation seamlessly integrates scientific rigor with practical application. The company provides precision oncology at its most impactful, accelerating timelines, improving outcomes, and tackling cancer's inherent complexity. Its success lies in its dual commitment to technological excellence and deep collaboration. By adapting its platforms to the evolving needs of clinicians, researchers, and payers, BostonGene addresses gaps in the oncology landscape and anticipates the future of cancer care. This fusion of innovation, adaptability, and relentless focus on patient-centric outcomes cements BostonGene's role as a bold leader in the precision oncology diagnostics market.

BostonGene earns Frost & Sullivan's 2025 North American Enabling Technology Leadership Award for its strong overall performance in the precision oncology diagnostics industry.

[27] "BostonGene Announces Publication in Collaboration with National Cancer Institute and National Institute of Allergy and Infectious Diseases in Cancer Cell" (BostonGene website: https://bostongene.com/news-and-publications/news/bostongene-announces-publication-in-collaboration-with-national-cancer-institute-and-national-institute-of-allergy-and-infectious-diseases-in-cancer-cell)
[28] "BostonGene Announces Publication in Nature" (BostonGene website: https://bostongene.com/news-and-publications/news/bostongene-announces-publication-in-nature)
[29] Frost & Sullivan Interview with BostonGene (Frost & Sullivan, November 2024)

What You Need to Know about the Enabling Technology Leadership Recognition

Frost & Sullivan's Enabling Technology Leadership Recognition recognizes the company that applies its technology in new ways to improve existing products and services and elevate the customer experience.

Best Practices Recognition Analysis

For the Enabling Technology Leadership Recognition, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

Customer Impact

Price/Performance Value: Products or services offer the best ROI and superior value compared to similar market offerings

Customer Purchase Experience: Purchase experience with minimal friction and high transparency assures customers that they are buying the optimal solution to address both their needs and constraints

Customer Ownership Excellence: Products and solutions evolve continuously in sync with the customers' own growth journeys, engendering pride of ownership and enhanced customer experience

Customer Service Experience: Customer service is readily accessible and stress-free, and delivered with high quality, high availability, and fast response time

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty, which is regularly measured and confirmed through a high Net Promoter Score®

Best Practices Recognition Analytics Methodology

Inspire the World to Support True Leaders

This long-term process spans 12 months, beginning with the prioritization of the sector. It involves a rigorous approach that includes comprehensive scanning and analytics to identify key best practice trends. A dedicated team of analysts, advisors, coaches, and experts collaborates closely, ensuring thorough review and input. The goal is to maximize the company's long-term value by leveraging unique perspectives to support each Best Practice Recognition and identify meaningful transformation and impact.

		VALUE IMPACT	
STEP		WHAT	WHY
1	**Opportunity Universe**	Identify Sectors with the Greatest Impact on the Global Economy	Value to Economic Development
2	**Transformational Model**	Analyze Strategic Imperatives That Drive Transformation	Understand and Create a Winning Strategy
3	**Ecosystem**	Map Critical Value Chains	Comprehensive Community that Shapes the Sector
4	**Growth Generator**	Data Foundation That Provides Decision Support System	Spark Opportunities and Accelerate Decision-making
5	**Growth Opportunities**	Identify Opportunities Generated by Companies	Drive the Transformation of the Industry
6	**Frost Radar**	Benchmark Companies on Future Growth Potential	Identify Most Powerful Companies to Action
7	**Best Practices**	Identify Companies Achieving Best Practices in All Critical Perspectives	Inspire the World
8	**Companies to Action**	Tell Your Story to the World (BICEP*)	Ecosystem Community Supporting Future Success

*Board of Directors, Investors, Customers, Employees, Partners

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at http://www.frost.com.

The Growth Pipeline Generator™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

Learn more.

Key Impacts:

- **Growth Pipeline:** *Continuous Flow of Growth Opportunities*
- **Growth Strategies:** *Proven Best Practices*
- **Innovation Culture:** *Optimized Customer Experience*
- **ROI & Margin:** *Implementation Excellence*
- **Transformational Growth:** *Industry Leadership*



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- Megatrend (MT)
- Business Model (BM)
- Technology (TE)
- Industries (IN)
- Customer (CU)
- Geographies (GE)

