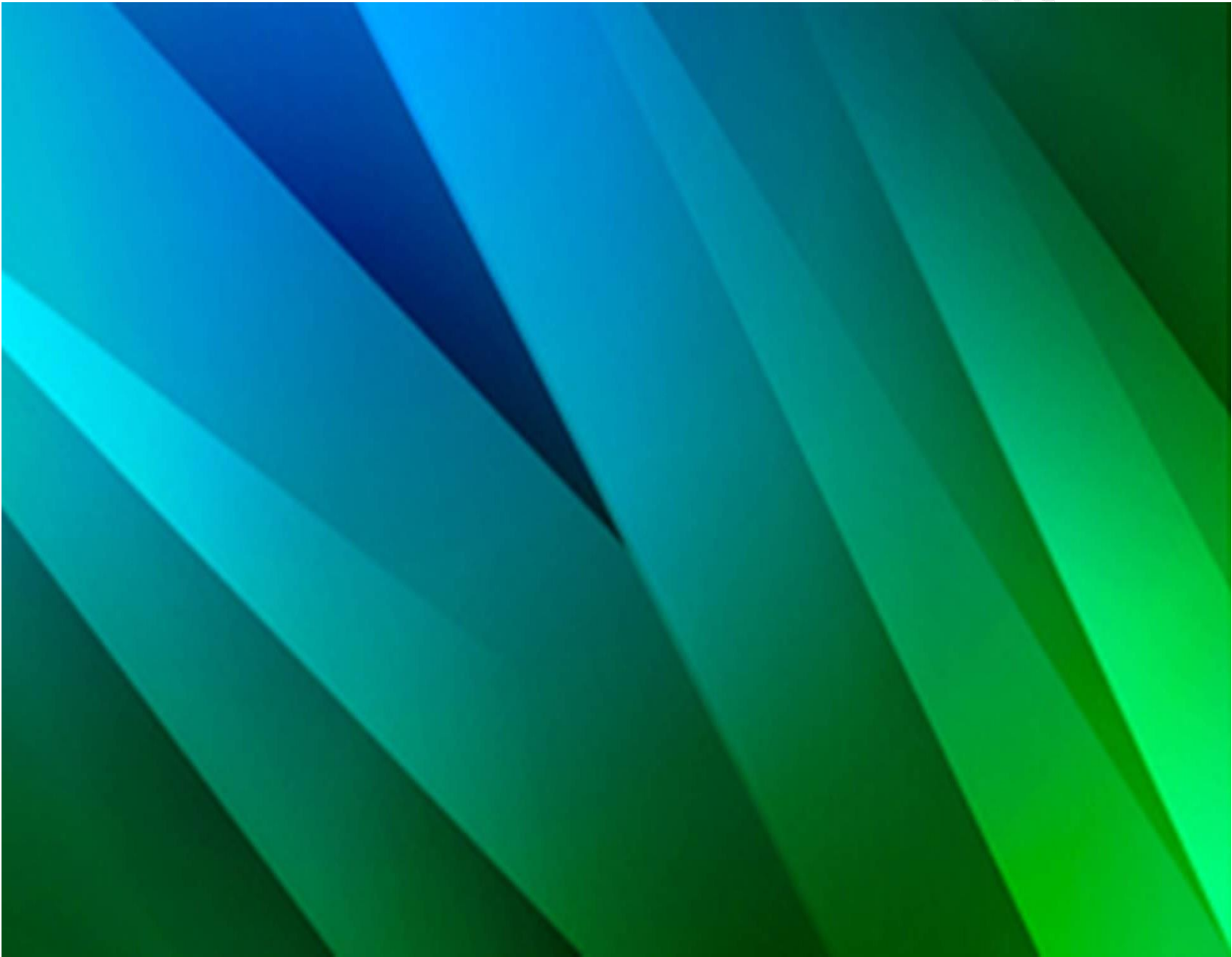




FROST & SULLIVAN
INSTITUTE

2022 Frost & Sullivan Institute Enlightened Growth Leadership Award Excellence in Best Practices





Congratulations!

Frost & Sullivan Institute, in partnership with Frost & Sullivan, is proud to present Samsung Biologics with the Enlightened Growth Leadership Award.

Frost & Sullivan's global team of growth pipeline experts continuously identifies and evaluates growth opportunities across multiple industries, technologies, and regions of the world. As the world emerges into the new norm disrupted and accelerated by the COVID-19 pandemic, it is becoming increasingly important for companies to leverage opportunities to shed old ways of thinking, build value chains that leave no stakeholders behind, and create foundations for stable growth to thrive in these new environments. We identify companies that demonstrate the commitment to embrace emerging technologies and protocols and generate opportunities for all while sustaining continued growth and highlighting best practices for sustainable development. This approach involves deep strategic deliberation around best practices and the development of core analytics across the entire value chain of specific products and services. Against the backdrop of these analytics, Frost & Sullivan Institute, in partnership with Frost & Sullivan, recognizes Samsung Biologics for its valuable achievement.

Frost & Sullivan Institute strictly reserves this recognition to companies at the innovation to zero and growth forefront in their respective industries. These companies demonstrate proactivity in utilizing business practices to 'innovate to zero' and address global priorities while securing sustainable growth. These companies also uniquely leverage technology and boost their industry partner ecosystem to serve ever-evolving customer needs in a way that facilitates environmental initiatives and supports the planet's well-being. Moreover, by combining business sense with a moral imperative, these companies demonstrate aspirational ideals beyond the simple goal of generating profits.

Moreover, this recognition is the result of many individuals (employees, customers, partners, and investors), making critical decisions every single day to support the organization and meaningfully contribute to its own future in a sustainable and socially responsible way. Frost & Sullivan Institute in partnership with Frost & Sullivan enthusiastically acknowledges and celebrates their contributions.

Once again, congratulations on your accomplishments, and we wish you great success in the future.

Sincerely,

David Frigstad

Chairman

Frost & Sullivan and Frost & Sullivan Institute



Best Practices Criteria for World-Class Performance

Frost & Sullivan Institute leverages Frost & Sullivan's rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria for each nominated company. Samsung Biologics excels in multiple criteria.



'Innovating to Zero' on Global Priorities

Lack of access to healthcare continues to pose a serious challenge to economies around the globe, with only half the global population receiving requisite medical diagnosis and treatment as of 2017¹. Governments and supranational agencies continue working hand-in-hand to bridge the deep healthcare chasm by designing sustainable solutions that ultimately aim to realize a vision of zero-zero diseases and zero fatalities. At the same time, the private healthcare sector has been in relentless pursuit of novel healthcare solutions to scale the availability of quality yet affordable products to different parts of the world.

With end-to-end integrated biopharmaceutical solutions in Contract Research, Development, and Management and expansion plans across Asia, America, and Europe with an underlying vision to enrich human lives with technology and innovation, Samsung Biologics stands out for its contribution in protecting and prolonging human lives by producing life-saving drugs and vaccines in collaboration with its clients.

True to its vision, the company leveraged its production capacity and technical expertise to scale manufacturing of COVID-19 vaccines and treatment drugs in collaboration with pharmaceutical giants such as Astra Zeneca and Moderna in 2021. With a view to abate regional vaccine disparity, the

¹ WHO; December 13, 2017; ["Half the world lacks access to essential health services, 100 million still pushed into extreme poverty because of health expenses"](#)



company announced a tie-up with US-based Greenlight Biosciences to supply COVID-19 mRNA vaccines to Africa in 2022. Moreover, the company has invested in RNA drug substance (DS) manufacturing capability additions in 2021 to contribute to a sustainable healthcare environment and improve the accessibility of biomedicines in every region of the world.

As a responsible global corporate citizen, the company continues to contribute to the cause of zero global emissions. To this end, Samsung Biologics will participate in the global collaborative effort under Frontier 1.5D initiative to limit temperature rise to 1.5°C above pre-industrial levels. The company will use Science Based Targets (SBT) and robust reporting through the Carbon Disclosure Project (CDP) to contribute to the 2050 Carbon Neutral Strategy. In comparison to 2020 levels, the company has pledged to reduce GHG emissions units based on production and energy source usage by 37% by 2025². Samsung Biologics is also maximizing recycling rates, minimizing waste generation, and continually monitoring nitrogen oxide emissions to contribute towards its long-term climate goals. The company seeks to minimize nitrogen oxide emissions by applying ultra-low-nox burners to new factory boilers under construction.

“With end-to-end integrated biopharmaceutical solutions in Contract Research, Development, and Management and expansion plans across Asia, America, and Europe with an underlying vision to enrich human lives with technology and innovation, Samsung Biologics stands out for its contribution in protecting and prolonging human lives by producing life-saving drugs and vaccines in collaboration with its clients.”

- Research Analyst, Frost & Sullivan

As a socially responsible enterprise, the company has implemented a robust Environment Health and Safety (EHS) strategy including risk identification and assessment, establishment of counter-measures, on-site inspections and training, and an emergency response system to ensure workplace and community safety.

Frost and Sullivan salutes Samsung Biologics’ unwavering commitment to the vision of zero – zero global illness, zero emissions, and zero workplace accidents achieved through professional excellence, science-based emission reduction targets, and robust

safety assessment frameworks.

Growth Excellence

In 2020, Samsung Biologics exceeded KRW 1 trillion (\$773.1 million) for the first time since its inception in 2011 buoyed by a steep increase in demand for medicines and vaccines during the pandemic³. Over the past decade, the company has leveraged a multi-pronged growth strategy of capacity addition investments, a diversified product portfolio from Contract Manufacturing to Development, strategic partnering, geographic expansion, and unrelenting research focus to drive sustained growth.

In particular, the emphasis on research, development, and innovation activities since 2017 resulted in two domestic patent applications in 2020. In 2021, the company released its proprietary technology

² Samsung Biologics; [“Sustainability Report 2021”](#)

³ Ibid.



platform, S-Cellerate™ that offers integrated and coherent drug development solutions resulting in significant time- and cost-savings for clients, indispensable to saving human lives during the pandemic.

Soon after its inception, Samsung Biologics entered into a strategic alliance with a leading biotechnology company, Biogen, to venture into the biosimilar medicine and biologic therapy industry. After Samsung

“To establish trust and transparency with remotely located customers from US and Europe during the pandemic, the company jumped onto the digitalization bandwagon by offering real-time virtual tours and established rapid communication channels for customers with consignment contracts thereby leveraging the strategic imperative of transformative mega trends to its advantage.”

Bioepis established a firm footing in the biopharmaceutical industry through its comprehensive biosimilar portfolio, it was fully acquired by Samsung Biologics with a medium-term vision to fortify biosimilar development capabilities, drive novel drug development, and accelerate sales growth. Samsung Biologics thus has leveraged growth processes of strategic partnering and mergers and acquisitions to continually support growth and innovation excellence.

Samsung Biologics’ growth excellence also stems from its ability to adapt to rapidly evolving trends transforming the healthcare industry and tailor its offerings to match client requirements resulting in cost-

- Research Analyst, Frost & Sullivan

efficiencies for its customer base. To establish trust and transparency with remotely located customers from US and Europe during the pandemic, the company jumped onto the digitalization bandwagon by offering real-time virtual tours and established rapid communication channels for customers with consignment contracts thereby leveraging the strategic imperative of transformative mega trends to its advantage.

Frost and Sullivan lauds Samsung Biologics’ ability to leverage several growth processes and the strategic imperatives of transformative mega trends and innovative business models to establish a firm foothold in the biopharmaceutical industry, within a decade of its existence.

Customer Value Chain

Samsung Biologics has been recognized for its excellence in customer service, quality, and reliability with three CMO Leadership Awards in 2022 and its customer centricity and excellence has been recognized every year since 2013 with consecutive wins at the CMO Leadership Awards.

To cater to wide-ranging customer needs, the company has expanded its business from Drug Substances (DS) production to include contract development and testing services. By offering end-to-end integrated biopharmaceutical solutions that generate both cost savings and time efficiencies for its customer base, Samsung Biologics has effectively leveraged the strategic imperative of customer value chain compression to tap into a wider clientele and drive customer satisfaction. The company provides customized, data-driven services based on product and client characteristics to improve customer satisfaction and routinely conducts customer surveys to minimize customer defection.



The company is also investing in capacity additions with the construction of Plants 4, 5, and 6 between 2021 and 2023 which will offer clients more flexibility to choose between various bioreactor scales from 2,000L, 10,000L, and 15,000L resulting in highly customized solutions. Moreover, plant 5 will combine multi-modal product services including cell and gene therapies and next-gen vaccines under a single roof, making it a one stop shop for customers.

To enhance its outreach and highlight its customized services, the company engages in academic presentations at global conferences and publishes industry whitepapers that portray Samsung Biologics' distinguished offerings and strengths on a variety of metrics including expertise, service quality, and delivery criteria, factors which are crucial in driving CMDO service contract decisions.

The company is expanding its customer base from large pharmaceutical companies to small and medium biotech enterprises with a view to boost orders. To establish a wider global presence, the company opened its first R&D center in the San Francisco Biopharma Cluster in October 2020 to scale market access in the US, Europe, and China.

Frost and Sullivan recognizes Samsung Biologics' ability to accurately read the pulse of its customer base and tailor high quality offerings to compress the customer value chain as well as its unrelenting focus in driving customer excellence through a continuous feedback loop, employee trainings, and data-driven insights based on customer and product offerings.

Conclusion

Over the last decade, Samsung Biologics has emerged as a frontrunner in providing comprehensive biopharmaceutical solutions across contract research, manufacturing, and development, significantly impacting human lives. Together with a robust emission reduction roadmap with Science Based Targets (SBT) and environmental reporting in line with the Carbon Disclosure Project (CDP) and the Global Reporting Initiative (GRI), the company continues to effectively contribute toward the Sustainable Development Goals of Good Health and Well-being and Responsible Consumption and Production. By effectively leveraging evolving disruptive trends such as digitalization and customer value chain compression to its advantage, the company has built a diversified product portfolio and scaled geographical presence, powering sustained growth over the years.

For its strong overall performance and moving the world in the right direction, Samsung Biologics earns the 2022 Frost & Sullivan Institute Enlightened Growth Leadership Award.



What You Need to Know about the Enlightened Growth Leadership Recognition

Frost & Sullivan Institute's Enlightened Growth Leadership Award recognizes the company that addresses the global priorities as identified by the Institute and demonstrates sustainable growth in the industry.

Best Practices Award Analysis

For the Enlightened Growth Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

'Innovating to Zero' on Global Priorities: The company demonstrates proactivity in 'Innovating to Zero' in terms of one or more of the following global priorities that form the seven pillars of the Frost & Sullivan Institute:

- i) **Environment:** Environmental initiatives can include climate change, vulnerable groups, behavioral change, international governance, waste management, or others.
- ii) **Education:** Education can encompass equal access, gender parity, EdTech, quality education, education resources, vocational training, or others.
- iii) **Infrastructure:** Infrastructure can incorporate infrastructure as a basic right, technology and infrastructure, environment and infrastructure, urban infrastructure, and financing models, among others.
- iv) **Healthcare:** Healthcare can comprise healthcare crisis, mental health, finance, healthcare systems, advanced healthcare, and technology and healthcare, among others.
- v) **Security:** Human security can refer to transnational governance, human security, food security, or others.
- vi) **Human Rights:** Human rights can involve governance, special group rights, justice, or other such elements.
- vii) **Economics:** Economics can pertain to inequality, new economic regime, FinTech, behavioral change, or others.

Growth Excellence: The company demonstrates healthy growth over a span of 10 years. It focuses on short-term and long-term growth strategies to maintain a superior industry position. The executive team's vision aligns with the company's growth strategy, effectively translating this vision into growth. The socially responsible organization enforces strategies to increase its share of the customer wallet, successfully differentiating itself from competitors and positively impacting its market share. It also adopts strategies to build upon achieved growth and sustain continued growth while highlighting best practices for sustainable development.



Customer Value Chain: The Company pays heed to the planet's well-being and addresses environmental initiatives such as climate change, carbon footprint reduction and elimination, waste management, or clean energy production. Its key value proposition is refined by building on client feedback and continuously improving products and services. The organization prioritizes its customers' needs and provides significantly greater value for the price. It offers exceptional customer value by providing the best purchase experience to customers, placing importance on providing a high degree of satisfaction amongst existing and potential clients, or ensuring the best and differentiated service experience.

Integrated Competition - Industry Partner Ecosystem: The company makes use of unique business models such as corporate partnerships and public-private collaborations to boost the industry partner ecosystem. By combining business sense with a moral imperative, the company demonstrates aspirational ideals beyond the simple goal of generating profits. The organization's efforts to cooperate with competitors reveal its cognizance of a broader vision and endeavors towards positively impacting the overall industry.

Technology Leverage/Innovation: The company incorporates or uniquely leverages technology, standing out among the competition. The technology addresses key future needs and applications and is disruptive to or supersedes existing technologies. The company's technology or technology leverage can be diversely applicable or has created new markets or applications where none existed before. It has introduced creative features and functionality by jumping through hoops to convert its vision into a reality. The organization has a structured process or best practices to incubate new technologies developed internally or through strategic partnerships. The company's innovations or technology incorporation has the potential to become an industry standard.



About Frost & Sullivan Institute

Frost & Sullivan Institute (FSI) is a non-profit organization dedicated to utilizing business practices to address global priorities. The genesis of the institute goes back to our vision of either creating or becoming part of a solution that addresses threats to humanity. Frost & Sullivan Institute has identified strategic imperatives for transformation and believes that by using a Socratic approach, we can truly accelerate innovation to zero. The Institute works in collaboration with leading analyst teams, its internal research team, industry experts, and other partners. It works closely with Frost & Sullivan Inc. to leverage in-house thought leadership in order to identify opportunities for transformation that will arise from innovation, disruptive technologies, and overarching megatrends that will alter the world as we know it today. To learn more about FSI, visit <https://www.frostandullivaninstitute.org/>.

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 Engine™



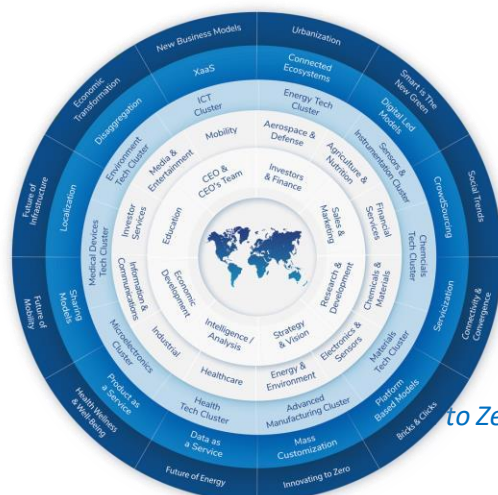
Frost & Sullivan’s proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

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 six 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:

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



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