



FROST & SULLIVAN
INSTITUTE

2022 Frost & Sullivan Institute Enlightened Growth Leadership Award



FROST & SULLIVAN
BEST PRACTICES
AWARDS

Cummins



Congratulations!

Frost & Sullivan Institute, in partnership with Frost & Sullivan, is proud to present Cummins 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 Cummins for its valuable achievement.

Frost & Sullivan 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 in partnership with Frost & Sullivan Institute 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 Executive Director, 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. Cummins excels in multiple criteria.



Introduction

Cummins is an American Fortune 500 company that designs, manufactures, and distributes engines, filtration, and power generation products. Globally, the company employs approximately 58,000 people and operates in 190 countries. Cummins is committed to sustainable development and focuses on ten Sustainable Development Goals (SDGs) to which it believes it can make a significant contribution: poverty, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry innovation and infrastructure, responsible consumption and production, climate action, and global partnership.

'Innovating to Zero' on Global Priorities

Since 2017, Cummins has pledged to develop targets within the Science Based Targets Initiative (SBTi) framework that aligns with the Paris Climate Agreement to combat climate change and take measurable action. As part of the company's environmental sustainability strategy, interim and long-term goals have been established. Cummins has pledged to reduce greenhouse gas emissions from its operations by 50% by 2030; in 2021, the company reduced emissions by 31% i.e., 277,000 metric tons on an absolute basis from 56,000 metric tons on an absolute basis in 2019, in line with its target.

Similarly, in 2021, the company invested \$20 million in GHG emission reduction projects, completed 155 projects, saving 22,495 metric tons of CO₂e (carbon dioxide equivalent), and converted most large sites to LED lighting, accounting for 15% of total GHG savings in 2021. Furthermore, Cummins works closely with its customers to reduce scope 3 emissions. Since 2014, the company has been working diligently on



projects to reduce carbon emissions, and in 2021, it completed 50 more projects, bringing the total number of projects completed to 700

Furthermore, Paint and coating operations account for 73% of total emissions from Cummins facility operations. With various measures in 2021, the company reduced Volatile Organic Compounds Emissions (VOCE) by 45%. Likewise, Cummins intends to reduce packaging waste by 78 million pounds by 2030. It has launched initiatives to reduce packaging waste, process-derived waste (such as used oil, coolants, paints, and solvents), and general refuse as part of its efforts. Furthermore, Cummins achieved a 4.1% waste reduction from its baseline in 2018, reducing waste generation by 3%.

“Cummins’s commitment to addressing global priorities like the environment and sustainability is inspiring. Its effort to drive an emission-free future through its renewable energy efforts and the company’s initiatives to reduce waste is truly praiseworthy.”

*- Priyanka Sharma, Research Analyst,
Frost & Sullivan Institute*

In 2021, the company launched an initiative to conserve water, Cummins Water Works, worth \$8.5 million. The program works with world-class water experts to invest in and participate in long-term, large-scale, high-impact water projects. In addition, the company intends to reduce its own water consumption by 30% by 2030. To reduce the use of freshwater, the company has already installed three on-site water treatment systems in its major plants and is looking for ways to harvest rainwater on its sites.

As a component of the company's carbon-reduction strategy, Cummins also announced the release of a 15-liter natural gas engine for heavy-duty trucks. Cummins' strategy focuses on reducing carbon emissions through widely available technologies while investing in infrastructure to achieve zero emissions. Frost & Sullivan Institute applauds Cummins' efforts of successfully reducing its carbon emissions. The company's ongoing efforts to reduce waste and conserve water are truly admirable.

Growth Excellence & Industry Partner Ecosystem

The company witnessed increased demand for its products in 2021, resulting in record revenue of \$24 billion, 21% higher than in 2020. When compared to the previous year, sales increased in all its major regions. In 2021, the company's EBITDA was \$3.5 billion, up from \$3.1 billion in 2020. The company also earned a net income of \$2.1 billion in 2021, compared to \$1.8 billion in 2020.

Cummins unveiled the first Centum Series generators at a virtual event in July 2022. These new generator sets are intended to meet the precise power requirements of customers by utilizing high-efficiency engines in a smaller footprint. Cummins announced the formation of Cummins Enze in 2021, a 50:50 joint venture with Sinopec, with the goal of increasing the affordability and availability of zero-carbon green hydrogen in China.

Likewise, Cummins signed a memorandum of understanding with Komatsu in June 2022 to collaborate on the development of zero-emissions haulage equipment. The collaboration will initially focus on zero emissions power technologies such as hydrogen fuel cell solutions for large mining haul truck applications, building a diesel engine partnership across a wide range of mining and construction equipment. Hyliion



“Cummins has witnessed impressive growth over the years. Its initiative to promote global priorities through industry collaboration, as well as its efforts to diversify its products to provide affordable solutions to customers is inspiring.”

**- Priyanka Sharma, Research Analyst,
Frost & Sullivan Institute**

and Cummins collaborated in the same month to bring the natural gas Hypertruck ERX Powertrain to the North American truck market. The two companies are collaborating to improve the Cummins natural gas engine, which serves as the generator for the Hypertruck ERX powertrain.

Frost & Sullivan Institute appreciates Cummins' initiative to become a global leader by focusing all its efforts on making the world a better and greener place

for all. The company's growth has been phenomenal over the years. Its initiative to address global priorities through industry collaboration is impressive.

Technology Leverage

Cummins maintains market leadership in the industry by continuously leveraging technology in a variety of ways to drive growth. The company uses advanced engineering and manufacturing techniques to create innovative products. Cummins consistently invests in research and development to address future challenges. In 2021 alone, the company spent approximately \$1.1 billion on research, development, and engineering expenses, exceeding \$900 million in investments in R&D for the fourth consecutive year.

Likewise, in 2021, Cummins partnered with Sion Power Corporation, a leading developer of high-energy rechargeable battery technology, to expand its battery technology portfolio. According to the terms of the agreement, Sion Power will participate in a multi-year development program to design and supply large-format lithium metal battery cells for use in Cummins' commercial vehicle electric powertrains. Sion Power's high-energy battery chemistry is an important component of Cummins' roadmap to electrify the company's commercial vehicle products and it is expected to significantly contribute to the decarbonization of the transportation industry.

In May 2022, Cummins launched its 15-liter hydrogen engine at the ACT Expo in Long Beach, California. This engine is expected to provide a zero-carbon-fueled solution for multiple markets. The company plans to produce a hydrogen-fueled engine platform for its medium-duty 6.7-liter and heavy-duty 15-liter internal combustion engines as an initiative to provide customers with a competitively priced alternative that helps in the reduction of carbon emissions.

Frost & Sullivan Institute admires Cummins' efforts to leverage technology not only for their own growth and development but also to address global priorities.



Conclusion

The consequences of climate change and environmental degradation are among the most significant challenges that are drawing the attention of both governments and businesses alike. Cummins is a pioneer in enabling an emission-free future through renewable energy initiatives. Its vision to become a global leader by directing all its efforts to drive the world toward sustainability is commendable. The Company is a flagbearer when it comes to collaboration and leveraging technology and innovation to achieve responsible growth.

Frost & Sullivan Institute wishes to congratulate Cummins on its accomplishments and for the second year in a row, presents the company with 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:

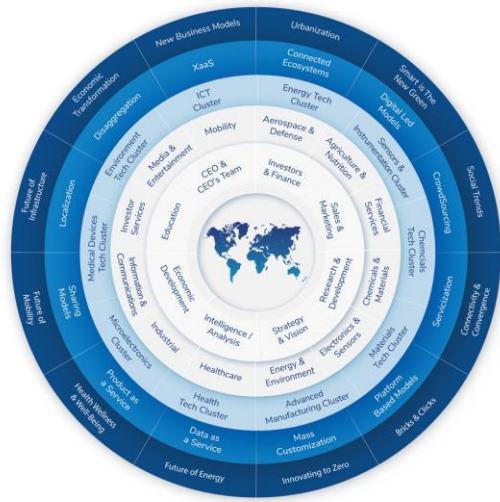
- **Growth Pipeline:** Continuous flow of Growth opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership

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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