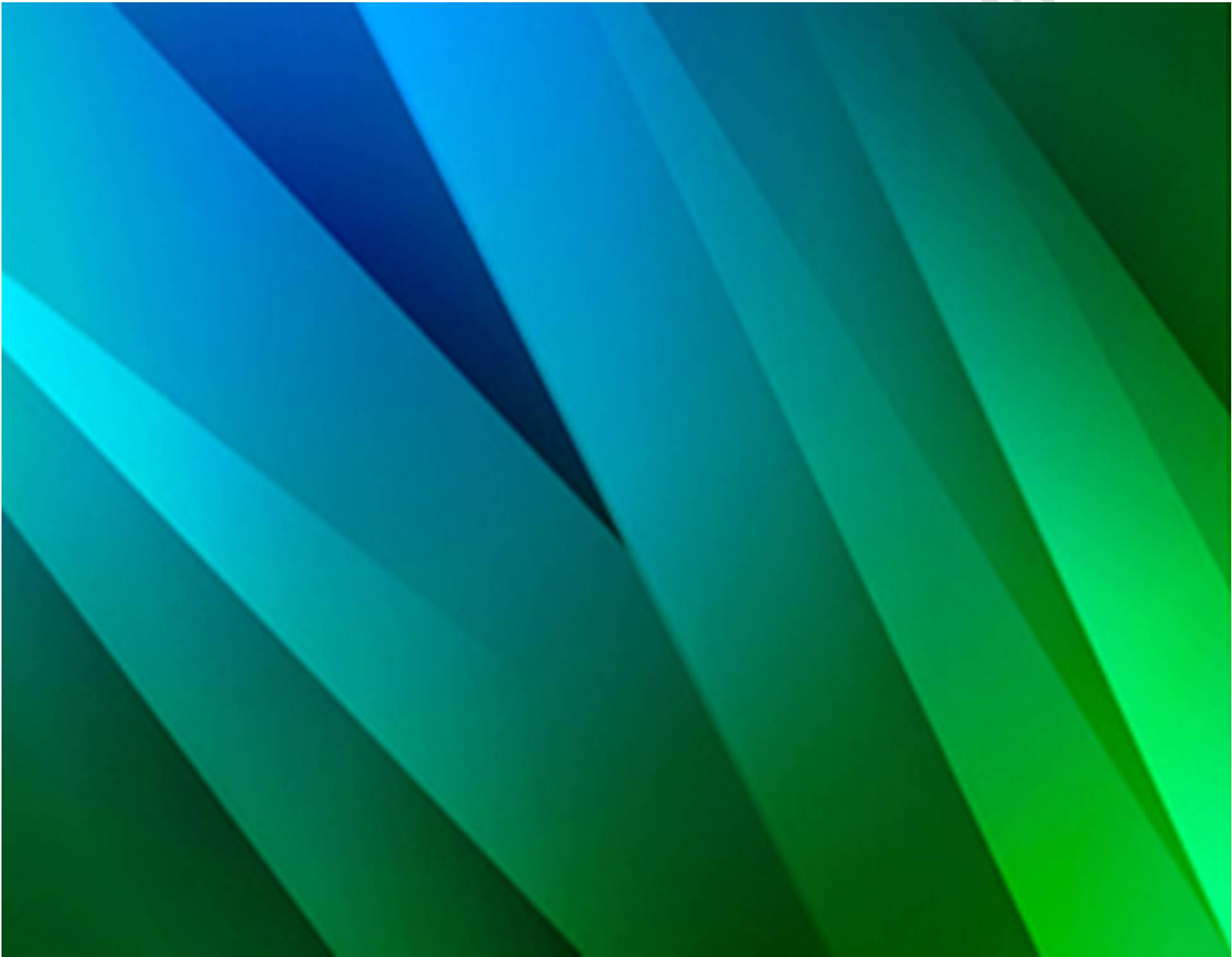




FROST & SULLIVAN
INSTITUTE

2021 Frost & Sullivan Institute **Enlightened Growth Leadership Award**

Excellence in Best Practices





Congratulations!

Frost & Sullivan Institute, in partnership with Frost & Sullivan, is proud to present Mahindra & Mahindra Ltd. 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 Mahindra & Mahindra Ltd. 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 over a span of their enduring association with Frost & Sullivan. 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. This recognition is also a token of our gratitude towards our clients whom we have accompanied on their journeys towards transformational growth. In this context, Mahindra & Mahindra Ltd.'s recognition holds an even greater significance in reaffirming its longstanding relationship with Frost & Sullivan.

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 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. Mahindra & Mahindra Ltd. excels in multiple criteria.



Introduction

After the Paris Agreement in 2015, the United Nations set 17 comprehensive sustainable development goals (SDGs) for governments and businesses to follow around the world. The primary goal of the Paris Agreement and the UN SDGs is to limit global warming, preferably to below 1.5 degree Celsius compared to pre-industrial levels. Although countries need to implement stricter plans and policies to improve resilience towards climate change and reduce carbon emissions, the global sustainability scenario has substantially changed after the agreement. Many countries, governments, and companies have established zero emission targets. Zero carbon policies are gradually becoming a new norm and a prominent differentiating strategy, especially in developed countries. Adopting zero-emission technologies and solutions have allowed companies to witness new business opportunities. Many countries offer tax advantages and monetary incentives to businesses that adopt green policies.

One of the crucial sectors that plays a prominent role in achieving the UN SDGs is the transport and mobility sector. Currently, this sector accounts for approximately 25% of energy-related carbon emissions, the highest among other sectors and is continually increasing.¹

'Innovating to Zero' on Global Priorities

¹ <https://www.unep.org/explore-topics/transport/what-we-do/electric-mobility/why-does-electric-mobility-matter>



A successful business in the global automobile sector, boasting effective corporate governance and significant sustainable achievements, is the Mahindra & Mahindra Ltd. Group Founded in 1945 and headquartered in Mumbai, India, the company has a prominent vehicle manufacturing division that develops groundbreaking innovations across several sectors, including electric vehicles (EVs), farm equipment, commercial vehicles, and passenger vehicles, among others. Mahindra & Mahindra Ltd. has

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- Analyst, Frost & Sullivan

always prioritized sustainability. It has been recognized as one of the most sustainable businesses around the world by many independent organizations and climate agencies. The company maintains a top-down approach to communicate its sustainable agendas across its executives and subsidiaries. At the receiving end of this approach, the company has designated several sustainability champions that locally drive and monitor its sustainable initiatives and collect data for accurate reporting. Its automobile division, Mahindra &

Mahindra Ltd. (M&M), is among the first companies globally to commit to the EP100 initiative by pledging to improve energy productivity and deploy energy-efficient technologies and practices in every group company. Following this pledge, M&M's manufacturing plants are now certified as 'zero waste to landfill'.

Mahindra & Mahindra Ltd. is committed to becoming a carbon-neutral business by 2040. To achieve carbon neutrality, the company is gradually improving the environmental, social, and governance (ESG) factors that affect the entire business, including its supply chain. The company frequently conducts training, capacity building, and assessment programs to make the suppliers aware of trending sustainability issues and their roles to mitigate such issues. The programs and other e-learning modules are also available digitally through MSetu, which is Mahindra & Mahindra Ltd.'s supplier communication and engagement portal. From 2017 to 2020, Mahindra & Mahindra Ltd. supported more than 93 M&M and other suppliers for the deployment of energy-efficient programs that reportedly resulted in greenhouse gas emission reduction of an astonishing 20,280 megatons per annum. Besides supply chain sustainability, Mahindra & Mahindra Ltd.'s manufacturing plants are focused on reducing carbon emissions and improving energy performances. For instance, its Nashik plant one and two are platinum-rated by the Indian Green Building Council. The sustainable practices in these plants reduce 132 tons of carbon emissions every year, leading to approximately INR 900,000 in financial savings per annum. Likewise, Mahindra & Mahindra Ltd. is devoted to reduce freshwater use and ensure water security for local communities and businesses. Its water withdrawal alone has reduced by 15% in the fiscal year (FY) 2021 compared to the FY 2020. Its Swaraj plant one and Zaheerabad farm division plant boast rainwater harvesting capabilities of approximately 360,000 kiloliters per year. The company adopts a circular economy approach to efficiently reduce waste and improve energy usage.

Frost & Sullivan applauds Mahindra & Mahindra Ltd. for its outstanding initiatives that put sustainability as its top priority. The company's ability to deploy programs to reduce carbon emissions and improve energy efficiency internally and across its supply chain is highly commendable.



Growth Excellence

With more than 260,000 employees across 100 countries, Mahindra & Mahindra Ltd. adopts a customer-first and quality-focused strategy to stay ahead of the curve across 22 industries in which it operates. Led by a highly distinguished group, the company aspires to 'lead ESG globally' through sustainable development, responsible manufacturing, and outstanding governance and decision-making. Despite the COVID 19 pandemic, Mahindra & Mahindra Ltd.'s automobile division successfully transitioned from Bharat Stage 4 (BS4) to BS6 with eight engine platforms, 16 vehicle platforms, and 30 vehicle variants. The transition to BS6 engines is a laudable move as such engines are highly efficient with significantly lower emission levels compared to the BS4 engines.

Furthermore, Mahindra & Mahindra Ltd. is committed to curbing vehicle-related emissions by increasing EV manufacturing at its plants and surpassing internal combustion engine vehicle sales by 2030. To

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- Analyst, Frost & Sullivan

increase EV sales, M&M took a significant step and signed a memorandum of understanding with Israel-based REE Automotive to leverage their best-in-class corner module and platform technology and develop electric vehicles for the global market. In India, Mahindra & Mahindra Ltd. EVs have already accomplished more than 295 million kilometers on road, concurrently saving more than a remarkable 29,500 metric tons of carbon emissions.

Mahindra & Mahindra Ltd.'s farm equipment sector witnessed an exceptional growth of 17.4% in the FY 2021 compared to FY 2020. As of August 2021, the

company registered 18% and 17% growth respectively in the utility vehicle and passenger vehicle segment compared to the same period in 2020. These exceptional examples of growth, amidst the COVID 19 pandemic, truly showcase Mahindra & Mahindra Ltd.'s leading ability to deploy combat mechanisms through effective stakeholder engagement, risk management, and sustainability policies.

Frost & Sullivan lauds Mahindra & Mahindra Ltd. for its remarkable growth performance over the years, achieved through diligent customer and quality-focused strategies and sustainable collaborations.



Technology Leverage/Innovation

Mahindra & Mahindra Ltd. has been developing cutting-edge innovations across 22 highly competitive industries around the globe. The company has led the automotive industry in India since its inception and has always been at the forefront of several digital and technological revolutions. Its facilities are the first to adopt technologies that support the industry 4.0 framework. For instance, its Chakan manufacturing plant in Pune, India has installed a fully indigenous robotic body line with more than 100 robots. Besides robotic installations, Mahindra & Mahindra Ltd.'s state-of-the-art facilities are gradually leveraging artificial intelligence, machine learning, internet of things, and big data analytics to increase throughput and reduce downtime, thereby allowing superior manufacturing quality and performance.

Mahindra & Mahindra Ltd. has set up 68 manufacturing facilities with 23 research and development (R&D) across nine countries globally. In terms of R&D expenditure, the company spent a remarkable INR 21.6 billion for R&D work in FY 2021 alone. The company aims to leverage its high-tech R&D facilities to lead the future EV space and has created a unique 'Born EV' platform, which is a distinct EV architecture for its future electric sport utility vehicle line. To ensure success in this exceptional ambition, the company is focusing on leveraging partnerships and internal capabilities through its various research centers, including Mahindra & Mahindra Ltd. research valley, EV tech center, Mahindra & Mahindra Ltd. North American Technical Center (MNATC), and UK design center (M.A.D.E).

Frost & Sullivan commends Mahindra & Mahindra Ltd. for its outstanding innovation focus. The company admirably leverages cutting-edge technologies, including the state-of-the-art industry 4.0 framework, to achieve superior manufacturing performance.

Conclusion

With the global vehicle fleets increasing rapidly over the years, few businesses are revolutionizing the transport sector with their immense innovation capabilities. Founded in 1945, Mahindra & Mahindra Ltd. is a prominent name in the global transport and mobility space that develops best-in-class innovations across several sectors, including electric vehicles, farm equipment, and commercial and passenger vehicles. The company leverages a top-down approach to improve the environmental, social, and governance factors and realize several SDGs internally and throughout its supply chain. Despite the COVID 19 pandemic, the company has exhibited superior growth performance in the fiscal year 2021. Its state-of-the-art manufacturing and research and development facilities leverage artificial intelligence technologies to improve performance and throughput.

For its remarkable innovation capability and strong overall performance with sustainability at the forefront, Mahindra & Mahindra Ltd. earns the 2021 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 Coopetition - 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 mega trends that will alter the world as we know it today. To learn more about FSI, visit <https://www.frostandsullivaninstitute.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 on-going 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

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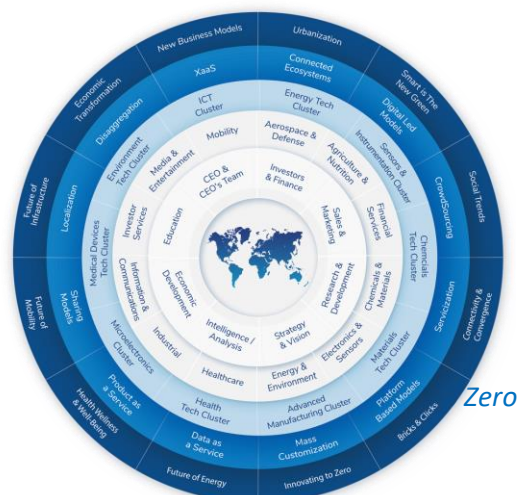
Innovation Generator™

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.

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

Analytical Perspectives:

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