

Embracing Global Innovations locally for Sustainable Future

PV CLEAN MOBILITY TECHNOLOGIES IS DRIVEN BY PURPOSE OF INNOVATING FOR A SUSTAINABLE AUTOMOTIVE FUTURE, LOCALISING GLOBAL TECHNOLOGIES FOR SELF-**RELIANCE, PRIORITISE QUALITY, AND DELIVER COST-EFFECTIVE SOLUTIONS FOR CLEAN** AND EFFICIENT PROPULSION IN THE SUBCONTINENT.

urugram, India-based PV Clean Mobility Technologies s a joint venture, between India-based leading manufacturer of advanced auto components for the automobile industry - Padmini VNA Mechatronics and international supplier for modern drive technologies for sustainnable mobility - Germany-based Vitesco Technologies. The company says the joint venture was formed in 2020 with a commitment to deliver world-class technical solutions to customers in India and globally. Ananda Reddy, CEO, PV Clean Mobility Technologies shares his thoughts on how the company's state-of-the-art technical capabilities can help deliver world-class quality, best-in-class customised products for electric, hybrid, and combustion engines for discerning customers.

PV Clean Mobility's core product area has been ICE powertrains. How do you plan to mitigate impact from new technologies like EVs and fuel-cell vehicles? What are the plans to foray in these segments?

PV Clean Mobility Technologies' portfolio for ICE solutions has been dominating the overall share of business, Fuel Delivery Modules contributes a significant share to our overall revenue and this business is still growing for us. However, our efforts have always been to focus on new technology development and upgradation to sustain the business growth. We are investing in products like Electric Actuator, Electronic Throttle Control Valve, Low Pressure EGR Valve and a few others.

What solutions are you offering for EVs? We have developed new solutions for Hybrids and Electric **PV CLEAN** MOBILITY **TECHNOLOGIES** AIMS TO **COLLABORATE CLOSELY WITH** INDIAN AND GLOBAL OEMS, ESPECIALLY ON SMART THERMAL MANAGEMENT SOLUTIONS.

- ANANDA REDDY, CEO, PV CLEAN MOBILITY **TECHNOLOGIES**

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Vehicles like Electric Water Pump and Coolant Flow Control Valves and Temperature Sensors. We are offering advanced technology solutions at highly competitive quality and cost. We have already partnered with a few OEMs for smart Thermal Management solutions for the Battery and Traction cooling systems. I personally see a huge potential of growth for the Thermal Management solutions in Hybrids and EVs. Also, we are in advanced development for alternative fuels for future powertrain technologies. So, I would say the pie is already shared among these segments and the business will grow with the market adaptation of these powertrain technologies.

What opportunities do you see from CNG, LNG, flex-fuel, hydrogen-ICE powertrains, as well as hybrids?

Our focus is on offering solutions that reduce evaporative emissions and assist OEMs in meeting future regulatory requirements. While we acknowledge the growing importance



of alternative powertrains, we believe that ICE will continue to hold a significant share in the Indian market until 2030. Therefore, we are committed to expanding our ICE-related portfolio and market share, and we are making substantial investments in this direction. We have recently made technological advancements in the application of ethanolbased fuels. We have developed a state-of-the-art manufacturing process for a variable flow fuel pump utilising BLDC motor technology for two-wheelers, specifically for E30 and E100 fuels. This enables us to provide robust and precise fuel delivery solutions for flex-fuel applications. We are actively collaborating with passenger car OEMs to develop Flex-Fuel systems, including Fuel Delivery Modules and Canister Purge Valves, which have qualified rigorous validation for these applications.

Furthermore, OEM focus on CNG/LNG is increasing but this is still a limited sized market, but we have started receiving interest from OEMs for hydrogen-ICE powertrain components. This is an exciting and promising technology, and we see significant potential in this field. We are actively focusing our efforts on developing innovative solutions that cater to the specific requirements.

In terms of R&D, what is the current focus regarding local new product development and what competencies of the Indian engineering workforce is PV Clean Mobility Technologies tapping into?

At PV Clean Mobility Technologies, our foundation is rooted in technology and innovation. We have a remarkable blend of legacy knowledge transferred from our shareholders, coupled with a highly capable local engineering and development team that drives the advancement of technological solutions.

When it comes to competencies, our Indian engineering workforce exhibits exceptional skills and expertise. They are adept at driving innovation and developing cutting-edge technological solutions. Our team excels in utilizing analytical and numerical-based development practices, conducting meticulous design reviews, and implementing design-formanufacturing strategies. In addition, we have established valuable partnerships with premium institutions in the country. These collaborations allow us to tap into their expertise and work together on groundbreaking research and development initiatives. Furthermore, we have invested in state-of-the-art infrastructure, including a CT Scanner, Material testing tools, benchmarking tools, and a large validation facility.

These resources play a crucial role in validating our technologies for real-world field conditions. These competencies ensure that our product development process upholds the highest standards of quality and efficiency.

We follow a robust quality management system (OMS) that enables us to maintain excellence and continually enhance our engineering capabilities. Our aim is to enrich these capabilities by investing in the right resources and talent. By nurturing and harnessing the strengths of the Indian engineering workforce, we remain at the forefront of technological advancements, empowering us to deliver tailored products of exceptional quality to our customers. Furthermore, our primary focus lies in rolling out products with a high local content. This strategic approach allows our OEM partners to benefit from policy incentives while fostering the growth of the Indian automotive







E-Water Pump Low



E-Water Pump High





BRANDED CONTENT

Fuel Delivery Modules

Power Class



Power Class





industry. We strongly believe in driving localisation, enabling us to contribute significantly to the development and sustainability of the Indian manufacturing ecosystem.

The Indian automotive industry has registered a sharp recovery after Covid. What are the company's capacity expansion and investment plans to fuel future growth?

Absolutely. I remember, when PV Clean Mobility Technologies was established in July 2020, we faced unprecedented challenges due to the pandemic. Despite the restrictions and safety measures in place, we managed to lay a strong foundation based on a resilient company culture. Since then, we have actively participated in the industry's recovery and are now focused on driving growth and diversity through strategic initiatives. Our expansion plans are ambitious, as we aim to grow the revenue exponentially in the coming years. To support this growth, we are executing our expansion strategies, investing in cutting-edge technologies, and fostering advancements in sub-systems for electric vehicles, and other alternative powertrains.

Investing in capacity expansion is a key aspect of our growth strategy. By doing so, we can effectively meet the increasing market demand and deliver exceptional products to our customers. Furthermore, our commitment to investing in the future of clean mobility remains strong.

How well is the company prepared to cope with the new technology demands from its customers in the future? What will be the key drivers of PV Clean Mobility's business in the next 5-10 years?

We remain steadfast in our commitment to fostering a greener planet through the provision of technologically advanced and economically viable clean mobility solutions. Building upon our past successes, we continue to prioritise strategic decisionmaking and the allocation of resources in alignment with our long-standing vision. Our unwavering dedication to innovation and emerging technologies positions us for exponential growth, enabling us to cultivate a thriving community characterised by happiness and progress.

What threats does PV Clean Mobility perceive to its business in an ever-changing global business scenario?

We acknowledge the potential threats that arise in the face of an ever-changing global economic and geopolitical scenario. While striving to avoid involvement in conflict zones, the company recognises that certain situations are unavoidable and may impact its operations. With example such as challenges related to rare earth magnets and electronic part shortages, we maintain a proactive stance by implementing robust mitigation plans and remaining prepared for challenging circumstances.

We have implemented comprehensive risk mitigation plans to address potential threats. This includes diversifying our supplier base to reduce dependence on imports, actively monitoring geopolitical developments, and cultivating alternative sourcing options for critical components. Additionally, we maintain close communication and collaborative relationships with our customers and partners, allowing us to swiftly adapt to changing market conditions and minimise disruptions.



Accelerating the future of clean mobility