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NanoMalaysia Berhad Launches A Comprehensive Air Purification Reactor for Vehicles and Small Rooms at Malaysia Technology Expo 2025

Introducing the world's first air auto removal designed to reduce carbon dioxide levels in vehicles

KUALA LUMPUR, 21st February 2025 – NanoMalaysia Berhad (NMB) and Caso Resource Optimization Sdn Bhd (Casoro) today unveiled their Comprehensive Air Purification Reactor for cars and small rooms. This groundbreaking non-chemical disinfecting system is the only air auto removal in the world that reduces vehicle carbon dioxide levels, improving air quality and creating a safer, healthier environment.

The Comprehensive Air Purification Reactor was launched by the Deputy Minister of Science, Technology and Innovation (MOSTI), YB Dato' Haji Mohammad Yusof Bin Apdal, at the Malaysia Technology Expo 2025 held at the World Trade Centre in Kuala Lumpur.

The device utilises UVA LED technology combined with Nano reactive coatings to effectively inactivate viruses and bacteria, remove volatile organic compounds (VOCs), eliminate odours, and reduce carbon dioxide levels inside vehicles and confined spaces such as small rooms. Amid rising concerns about air quality, the innovative system is poised to revolutionise how we maintain clean air in vehicles, providing an efficient solution for users seeking healthier, more comfortable travel experiences.

It operates through a multi-phase air purification and disinfecting process, which includes CDM Coating to remove carbon dioxide and harmful gases, Nano-TiO₂ Coating for disinfection and odour removal, HEPA 13 filters to capture fine particles, and an activated carbon filter for VOC removal. Its portability allows it to be easily moved between vehicles, homes, or offices, ensuring users enjoy clean air wherever they go. Additionally, the device's carbon dioxide absorption capability contributes significantly to the broader carbon capture agenda in a decentralised and democratised manner—aligning with the "Sum of Smalls" approach to mitigating climate change by enabling multiple localised carbon capture solutions.

NMB's Chief Executive Officer, Dr Rezal Khairi Ahmad, said: "The Comprehensive Air Purification Reactor is strategically designed to cater to a diverse range of market segments, including individual vehicle owners, ride-sharing and taxi drivers, fleet operators, car rental agencies, and public transportation providers. By effectively reducing carbon dioxide and other harmful gases inside vehicles, the system is critical in lowering greenhouse gas emissions, contributing significantly to global efforts to combat climate change." He further emphasised that the system's impact extends beyond environmental benefits, offering vital improvements in driver safety. Reducing carbon dioxide levels enhances driver alertness and concentration, minimising the risk of accidents.

The launch represents a key step in Casoro's international expansion strategy. The company has signed agreements for distribution in the EU, India and Singapore and is collaborating with a partner in Denmark to scale up the technology for other IAQ (Indoor Air Quality) applications. It is also negotiating with a partner in India to license the technology.



Pannir S. Velu, CEO of Casoro, said: "This marks a significant milestone for Casoro and our ongoing mission to develop safe, non-chemical disinfecting solutions. As part of our continuous efforts to enhance our system, we are currently integrating a real-time air quality sensor that will allow passengers to monitor the air quality inside their vehicles. Once introduced, this sensor will provide vital information about potential health hazards, ensuring that occupants are always aware of the air they breathe while on the road or in enclosed spaces."

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ABOUT NANOMALAYSIA BERHAD

NanoMalaysia Berhad was incorporated in 2011 as a company limited by guarantee (CLBG) under the Ministry of Science, Technology and Innovation (MOSTI) to act as a business entity entrusted with nanotechnology commercialisation and industrialisation activities through the NanoMalaysia Venture Builder model. NanoMalaysia is currently the leading agency for electric vehicle (EV) technology and hydrogen technology development under MOSTI.

ABOUT CASO RESOURCE OPTIMISATION SDN BHD

Caso Resource Optimization Sdn Bhd (Casoro) is a company incorporated by Han JDQL (M) Sdn Bhd and Aumada Energy and Technologies Sdn Bhd. Casoro's principal activities are developing UV LED based disinfecting lighting solutions, developing UV based solutions, marketing and selling of UV disinfecting solutions.

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