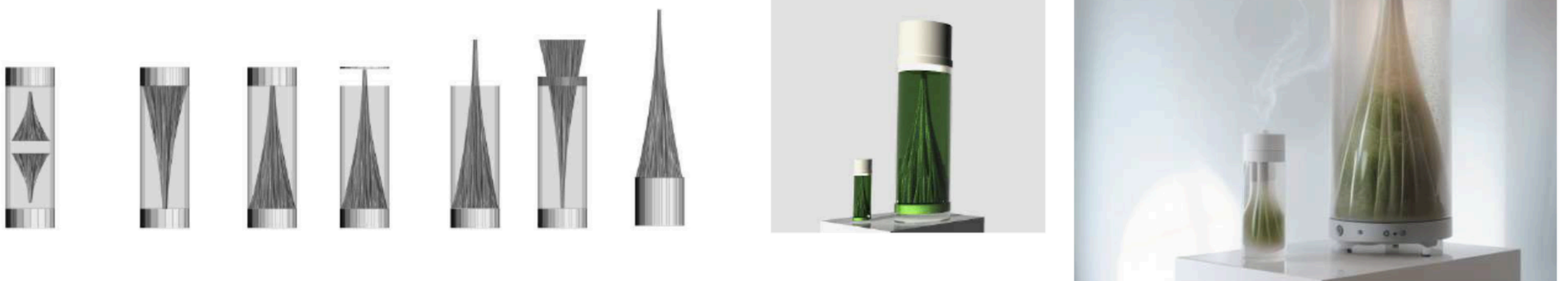




VERDANT.VAYU: COMPACT, AFFORDABLE, LOW-MAINTENANCE AIR QUALITY SOLUTION



Jiva.Nexus



Problem Statement

Air pollution remains a critical health concern in India, especially in urban homes and workplaces. While HEPA filters are effective for removing particulate matter, they do not capture gases such as CO₂ and VOCs. Indoor plants provide only negligible pollutant absorption, and bio-integrated systems using microalgae effectively capture CO₂ but fall short in addressing PM_x. Therefore, there is a need for a sustainable and scalable solution to comprehensively improve urban air quality.



Shrishail M Hamine

Technology

Verdant.Vayu is a dual-chamber air purification system that leverages natural hydrodynamic principles and biological processes to cleanse urban air. Its dual-action mechanism delivers oxygen-rich, clean air with controlled levels of CO₂, CO, and PM_x, offering a sustainable and low-maintenance alternative to conventional HEPA-based purifiers as well as emerging bio-integrated systems.



Ninad H Watve

Highlights

Verdant.Vayu is a standalone device designed for both indoor and outdoor environments. Its dual-chamber architecture enables scalability across a wide range of applications, from compact tabletop units for residential and commercial spaces to large-scale installations in public areas. This flexibility allows the system to adapt to varying operating conditions while maintaining efficient air purification performance.



Mangesh M Kurund