

Smart IoT-based, indigenously-developed, ICU Ventilator “Jeevan Lite” launched by Dr. (Smt.) TAMILISAI Soundararajan, Hon’ble Governor, Telangana & Hon’ble Lt. Governor, Puducherry at IIT Hyderabad

Applauding IIT Hyderabad urge to promote innovation & Entrepreneurship Dr. (Smt.) TAMILISAI stated IITH as “Telangana Institute of Pride”.

Highlights:

- This smart ventilation system is portable, cost-effective, IoT-enabled, and powered by lithium-ion batteries.
- It operates uninterrupted in SIMV, CMV, Adaptive and Hybrid modes of ventilation for 5 hours and is both invasive and non-invasive, with a smartphone app to control the device.
- It has been designed based on the Turbine-driven flow method, which provides independence from gas cylinders or compressors.
- It also comes with an integrated nebulizer with auto cut off precise timer. Jeevan Lite features all the essential modes expected from an advanced ventilation system in one adaptable platform.
- It also presents a wide range of tools to help you stabilize your patient and wean them off the ventilator.
- Device costs 4 Lakhs/ unit against similar imported devices worth 10-15 Lakhs/ Unit.

Hyderabad, March 24, 2022: The outbreak of COVID-19 has led to the huge demand for ventilators, as infected patients, especially those who suffer acute respiratory distress syndrome (ARDS), are in dire need of this life support system to aid their respiratory functions. A Ventilator is the most widely used short-term life support technique. It has been proven to be the defining intervention of intensive care medicine, especially in these critical times. Aerobiosys Innovations Private Limited, a company, was co-founded in 2019 by two young Biodesign Innovation fellows of the Center for Healthcare Entrepreneurship (CfHE), IITH; this Hyderabad-based startup has come up with a smart ventilation system named Jeevan Lite.

Prof B S Murty welcomed the gathering stating, *“IITH is a hub of innovation with entrepreneurship as its core. Though IITH is just 13 years old, it has more than 100 Startups, 200+ patents; some of them earning more than 100 crores already and given jobs to more than 800 people.”*

The Smart IoT-based ICU Ventilator was launched for public use by Dr. (Smt.) TAMILISAI Soundararajan - Hon’ble Governor of Telangana & Hon’ble Lt. Governor of Puducherry, in the august presence of Guest of Honor, Dr G Satheesh Reddy - Chairman, DRDO, Dr BVR Mohan Reddy - Chairman, BoG, IITH, Prof B S Murty - Director, IITH along with other officials from the State, District & IITH Community.

Congratulating IITH & Aerobiosys team for achieving this milestone, Dr G Satheesh Reddy said, *“We will extend all required support to IITH to be a world-class institute for Innovation in Technology”.*

“The future will be all about Healthcare, Smart Mobility, Communication, Sustainable Business & Space as specified by our Hon’ble Prime Minister recently, and IITH has done enormous work all these fronts, said Dr BVR Mohan Reddy, Chairman, BoG, IITH.

Hailing from Healthcare & Public Service Background, Dr. (Smt.) TAMILISAI Soundararajan, Chief Guest of the event, said, *“We had seen the time when maintenance of medical devices was delayed due import, IITH efforts to support innovation like Jeevan Lite to indigenizing the medical device will improve the healthcare facilities for the public. This aligns with our visionary PM dreams of Startup India and self-reliant India. Be happy & healthy & follow a good lifestyle and increase innovations, inventions & immunity so that we can fight future problems.*

"IITH will use its TIP (Technology Innovation Park) to increase its TRP (Technology Research Park)", added Dr. (Smt.) TAMILISAI Soundararajan.

At the launch, Mr Himanshu Sikka, Project Director, SAMRIDH Healthcare blended finance facility supported by USAID and managed by IPE Global, said, "We at USAID supported SAMRIDH Healthcare Blended Finance Facility are glad to have supported Aerobiosys for Jeevan Lite. At SAMRIDH, managed by IPE Global, we are committed to support the innovation ecosystem in the country by providing them access to affordable growth capital technical and business advisory support. We feel that blending grant capital with commercial capital has potential to provide entities like Aerobiosys the impetus required to scale-up their operations and contribute towards improved healthcare in the country, especially in tier 2/3 towns and rural areas."

M/s JCB had identified M/s Aerobiosys's Jeevan Lite as one promising solution for an indigenous ventilator in the country during the countrywide lockdown period. Under the guidance of Mr Sanjeev Arora, CTO, JCB India Limited, and led by Mr Roopak Sharma and a team of 20 key JCB employees, Team JCB supported in various aspects of product design and engineering from the early prototype stage. M/s JCB also extended their CSR support in the Alpha and Beta build of the product.

Application of the intelligent algorithms of Machine Learning on the data from the ventilators is where the future of ventilators is. Jeevan Lite offers possibilities in this direction.

The system has been designed with intuitive UI design, which provides each function in logical order so that clinicians do not need to navigate a complex menu. In addition, both the valves and flow sensor support autoclaving. This safety concept is designed to meet the current clinical trends of protecting patients even under the most demanding conditions. The system displays a real-time information of the breath pattern and other critical lung parameters. It can attach to an oxygen cylinder and can operate on its own in ambient air. The accessories and consumables are specially developed for the highest possible patient safety and ease of use. This enables the hospitals and the institutes to choose between reusable and disposable parts, according to their institutional policies.

Mr Rajesh Yadav, CEO & Co-founder of Aerobiosys, announced to handover 1st ten units to the Government of Telangana & Puducherry supported by Funding Programmes: USAID - SAMRIDH initiative being implemented by IPE Global, Biotechnology Ignition Grant, Centre for Augmenting WAR with COVID-19 Health Crisis (CAWACH), Department of Science & Technology Program **& Funding Agencies:** BIRAC, National Science & Technology Entrepreneurship Development Board (NSTEDB), DST, Govt. of India, CSR from M/s JCB and M/s HDFC Parivartan Smart up Grant.

About IIT Hyderabad

Indian Institute of Technology Hyderabad (IITH) is one of the eight new IITs established by the Government of India in 2008. In a short span of **13** years, the institute has become a top-ranker. Currently, it has **260+** full-time faculty, **3,900+** students, nearly **200+** state-of-the-art laboratories, and five research and entrepreneurship centers. The institute has a strong research focus with approx. Rs **575+** crore of sanctioned research funding with Ph.D. scholars accounting for about **30%** of total student strength. IITH has to its credit more than **7200+** research publications, **210+** patent disclosures, **1600+** sponsored/consultancy projects, and about **100+** startups.

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