

IIT-Hyderabad incubated start-up develops IoT-enabled, low-cost ventilator

This would provide enough isolation to the patient and protection to health workers and family. The ventilator can be controlled using the app and provides real-time display of the waveforms.



The minimal viable product with the required functionality of the ventilator has already been developed.

Aerobiosys Innovations, a start-up incubated at The Center for Healthcare Entrepreneurship (CfHE) in the Indian Institute of Technology-Hyderabad (IIT-H), has developed a low-cost, portable ventilator. Called Jeevan Lite, the device is internet of things (IoT)-enabled and can be operated through a mobile app. It can also be battery-operated for use in places where uninterrupted power supply cannot be assured.

The minimal viable product with the required functionality of the ventilator has already been developed. Following its certification, the company aims to produce at least 50 to 70 units per day through collaboration with an industrial partner.

Increased lending capacity to be used to cater to corporates and MSMEs: Indian Bank
Increased lending capacity to be used to cater to corporates and MSMEs: Indian Bank
Green impact assessment not needed for bulk drug makers: Govt
Green impact assessment not needed for bulk drug makers: Govt

“Senior citizens and elderly patients affected by Covid-19 will need ventilators for emergency life support. Aerobiosys has gone one step ahead by providing personal protection to the healthcare providers through IoT-enabled monitoring,” BS Murty, director, IIT Hyderabad, explained. Jeevan Lite can perform both invasive and non-invasive ventilation in a comprehensive set of modes and settings. It can be used for pediatric and adult patients and will work on rechargeable lithium-ion batteries in an uninterrupted manner for five hours without power supply.

“Unlike other low-cost models, Jeevan Lite is loaded with features such as wireless connectivity and remote monitoring that make it unique and equipped to meet the demands of

a pandemic situation like the Covid-19 infection,” Renu John, faculty co-head, CfHE, and head, department of biomedical engineering, IIT Hyderabad, said.

Jeevan Lite’s price has been fixed at Rs 1 lakh, significantly economical compared to existing products in the market. To cut down on the cost and facilitate remote electronic access to the device, Aerobiosys has developed a mobile app that communicates with the unit and seamlessly controls the functionality of the ventilator.

This would provide enough isolation to the patient and protection to health workers and family. The ventilator can be controlled using the app and provides real-time display of the waveforms. Each breath of the patient can be recorded and transmitted to the doctors via a connected app to enable telemedicine support. The device has provision to attach an oxygen cylinder and can operate on its own in ambient air.

Aerobiosys co-founders Rajesh Thangavel and Cyril Antony are confident that the design for manufacturing can be delivered by the first week of April. “Jeevan Lite has all the essential features to treat Covid-19 infected patients as mentioned by experts in pulmonology and critical care across India and the start-up is collaborating with Hyderabad-based tertiary care hospitals for clinical validation and device certification,” Cyril Antony said. “We are estimating to serve about 1 lakh people in the first three months. We plan to produce at least 50-70 units of our devices per day. The device fulfills the requirements mentioned by the ministry of health, director general life sciences, defence research and development organisation (DRDO), chairman-technical committee and Indian Council of Medical Research (ICMR),” Rajesh Thangavel added.

Source: FinancialExpress

Date: 04-04-2020