Initiative featured at the RIAC's Report developed to support countries' efforts to address COVID-19's impact

Low-Cost Disposable Artificial Ventilator Developed in Ecuador

University of Cuenca and Salesian Polytechnic University

Ecuador

Shared by: Villie Morocho, Researcher, University of Cuenca (ACE Leader)

A high-level research taskforce of the University of Cuenca in Ecuador has developed a prototype of a low-cost disposable artificial ventilator Called NVO2.ec. The team was responsible for designing the models and determining the materials, taking into consideration the costs of mass manufacturing. The team started working in March 2020, addressing three fronts: Team A focused in studding ventilator models to connect the oxygen line in a hospital; Team B focused on designing prototypes of devices that produce oxygen to use at home or outside the hospital; and Team C focused on the electronic control circuit for monitoring.

Photos' source: Villie Morocho, 2020

This first stage of developing the prototype of the ventilator has been financed by the Secretary of Higher Education. For the second stage, the costs associated to the clinical testing protocol must be established, including testing the device with humans. The National Agency for Regulation, Control and Sanitary Surveillance (ARCSA) must approve the protocol to continue the research process. Currently the research taskforce is conducting probes of the ventilator on dummies.

What support does the initiative needs?

Seed funds to advance applied research projects between the university and companies.

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