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Is Space R&D Truly Fostering A Better World For Our Future? (2)

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HOW BUSINESS ARE WORKING TOGETHER TO DELIVER NASA/JPL-DESIGNED
VENTILATORS TO THE WORLD IN THE FIGHT AGAINST COVID-19

Abstract

In response to the COVID-19 pandemic, NASA Jet Propulsion Laboratory (JPL) engineers had embarked on an ambitious project to design a reliable, easy-to-use, and low-cost ventilator that was made of readily available parts in order to address the unexpected global shortage of these lifesaving devices. After successfully designing and building the VITAL (Ventilator Intervention Technology Accessible Locally) ventilator in record time, FDA Emergency Use Authorization (EUA) was obtained and then the license to manufacture and sell these ventilators was made available to select companies through a competitive process. STARK Industries, LLC, located in Columbus, OH, USA, was one of only eight U.S. companies to be selected to receive this worldwide license. Motivated by its mission to improve human health and well-being through innovated medical technologies, STARK accepted the challenge of further developing the VITAL technology by manufacturing the ventilators in large quantities and making them available to those in need around the world. Through collaborative efforts with various corporate, academic, governmental, and non-profit partners, STARK was able to successfully begin manufacturing and selling its ventilators. Due to its low-cost nature and its straightforward design, this ventilator is ideal for use in developing countries where they are in short supply and affordability is a major consideration. To this end, Spiritus Medical, Inc was spun off from STARK to focus on the ventilator business. Spiritus also partnered with hospitals, including Southcoast Health in Massachusetts, USA to further validate the technology. This is a story of how NASA's ingenuity, based on space-based know-how and experience, was used to rapidly design this innovative ventilator. And by forging partnerships with highly qualified and motivated partners such as STARK Industries and Spiritus Medical, NASA has succeeded in translating this work into technology that could potentially save thousands of lives in the fight against the COVID-19 pandemic.