Elbit Subsidiary to Evaluate Navy Ventilator for COVID-19 Combat

Lt. Cmdr. Michael Heimes, a Sailor with Expeditionary Medical Facility-M, checks on a patient connected to a ventilator during an ICU night shift at Baton Rouge General Mid City campus on April 28. A Navy ventilator design is one of five being evaluated by a Pentagon-selected company for use to combat COVID-19. U.S. MARINE CORPS / Cpl. Daniel R. Betancourt Jr.

ARLINGTON, Va. – A subsidiary of Elbit Systems of America has been selected by a Defense Department team of medical professionals and engineers, to support the development and industrialization of ventilator designs – including one by the U.S. Navy – to help combat COVID-19 affliction.

Merrimack, New Hampshire-based KMC Systems Inc. is assessing five designs for low-cost, ready- for-production ventilators, picked by the department's "Hack-a-Vent Challenge" in June. KMC is assessing the five for simplicity of manufacture and availability of components. KMC was selected for the task by the Defense Health Agency, U.S. Air Force Rapid Capabilities Office and the Wright Brothers Institute, due to its experience designing and manufacturing in a U.S. Food and Drug Administration-regulated environment, the company said in an Aug. 20 statement.

"KMC has specialized in design and manufacturing for some of the leading medical devices and life-sciences companies for the last four decades," said Raanan Horowitz, president and CEO of Elbit Systems of America, itself a subsidiary of Israeli defense contractor, Elbit Systems Ltd.

Leveraging the U.S. Special Operations Command digital

platform, Vulcan, the “Hack-a-Vent Challenge” solicited crowdsourced proposals to build domestically sourced ventilators that would be portable, smaller than a traditional ventilator, and operational for under $500, providing a solution to rural communities and foreign partners. Five were selected out of 172 submissions.

The five prototypes include the CorVent by Coridea, BLU3 Vent by BLU3, iBreather by L3 Harris, FieldVent by Northrop Grumman, and the NAVSEA PRE-Vent by the Navy. The NAVSEA team — made up of U.S. Navy engineering, diving and life support, and biomedical research experts — kept their functional solution’s cost at $300.

The Navy team managed to provide many of the features of an intensive care unit ventilator without the reliance on the established medical supply chain by using sensors from the diving industry and the microcontroller enthusiast community.

The NAVSEA team also used 3-D printing to bridge compatibility gaps between those sensors and all standard aerosol, CPAP (Continuous Positive Airway Pressure) and BiPAP (Bilevel Positive Airway Pressure) hoses. They also included an uninterruptable power supply with battery backup.