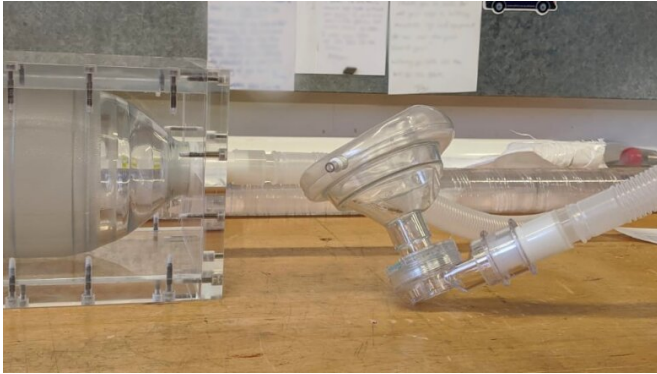


Scientists develop prototype for rapidly deployable ventilator

24 March 2020



Prototype of the deployable ventilator. Credit: King's College London

Engineers, anaesthetists and surgeons from King's and the University of Oxford are building and testing prototypes that can be manufactured using techniques and tools available in well-equipped university and small and medium enterprise (SME) workshops.

The team, led by Dr. Federico Formenti, King's, and Oxford Professors Andrew Farmery, Mark Thompson and Alfonso Castrejón-Pita, have been working to define novel mechanisms of operation that will meet the required specifications for safe and reliable function. The design aims to exploit off-the-shelf components and equipment.

The researchers are working in response to UK government calls to increase the country's [ventilator](#) manufacturing capacity due to COVID-19. Demonstrating safety and reliability and achieving regulatory approval of the open-source design will be necessary, and once this has been achieved, the approach could unlock potential for a new kind of distributed manufacturing effort.

Government coordination and ongoing rapid competitive selection of the best design concepts

will enable universities, SMEs and large industry to make and assemble these ventilators close to their local NHS services. This may allow local scaling according to demand and reduce stress on NHS distribution.

King's have offered the use of their workshops to manufacture/3-D print bespoke components.

Professor Thompson, Oxford's Department of Engineering Science, says: "This extraordinary situation demands an extraordinary response and we are pulling all the talents together in an exceptional team combining decades of experience translating research into the clinic, brilliant innovators, and highly skilled technicians."

More information: Project website: oxvent.org/

Provided by King's College London

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