What Is Citizen Science?

A collective of 20 of the foremost scientists, engineers and researchers from across the UAE have come together to investigate innovative new ways of containing the ongoing COVID-19 outbreak. Citizen Science, as the group are known, are being spearheaded by the Technology Innovation Institute (TII) in their efforts to relieve the medical and social pressures that the virus is causing.

While the global scientific community continues to follow [the steps of vaccine development](#) to try and finally put a stop to the pandemic, Citizen Science is concentrating on developing technological inventions and practical solutions which can limit its impact. Among other objectives, its members are focusing on facilitating accessing to personal protective equipment (PPE), rapid testing kits and ventilators.

New solutions to a new crisis

Already, Citizen Science has been responsible for the creation of a prototype ventilator, which is in the final stages of internal testing before it will be sent off for official approval. Other technologies that the group are pursuing include the use of 3D printers to artificially construct missing or damaged parts for medical machinery, and chest X-ray machines that can leverage artificial intelligence capabilities to offer more targeted diagnoses of the disease.

What's more, the group are also looking at how to make ventilators more efficient by allowing a single machine to treat three patients simultaneously, as well as new ways of disinfecting both PPE used in hospitals, care homes and other sensitive environments and public spaces at large. "This disease does not discriminate, know boundaries or care about humanity," [explained Dr Mohamed Al Teneiji](#), who serves as the chief research officer for the group.

"We cannot fight it with rhetoric or resolve, we must act. Simply, innovating new ways of producing and supplying our frontliners and patients with more efficient medical equipment could be the difference between life and death for many thousands of people. Citizen Science has banded together to bring new solutions to the operating table."

A collective effort

Those in charge at the TII have issued a nationwide appeal to all Emirati businesses, distributors and manufacturers, asking them to contribute vital parts, equipment, machinery, resources and critical industry knowledge where applicable. The most in-

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demand hardware items include laser cutters, 3D printers, ultraviolet (UV) light sensors, fans and valves, which are needed to produce all-important ventilators, testing kits and PPE.

Factory warehouses in Dubai and Sharjah belonging to Immensa Technology Labs are already being used as the epicentre of PPE production lines, where 3D printers are being used to create face masks for use in hospitals and the food sector on a mass scale. Elsewhere, several tech solutions have been pioneered to help combat the spread of the disease by organisations both public and private.

AES Venture, for example, is working on a sophisticated blood test device, which will equip the authorities with real-time knowledge of new diagnoses. Meanwhile, Abu Dhabi healthcare professionals have come up with an app to better track and trace the progress of the disease. TraceCovid takes advantage of phone signals and Bluetooth sensors to predict who those who have been diagnosed with the disease may come into contact with.