



ITALY

COVID-TECH

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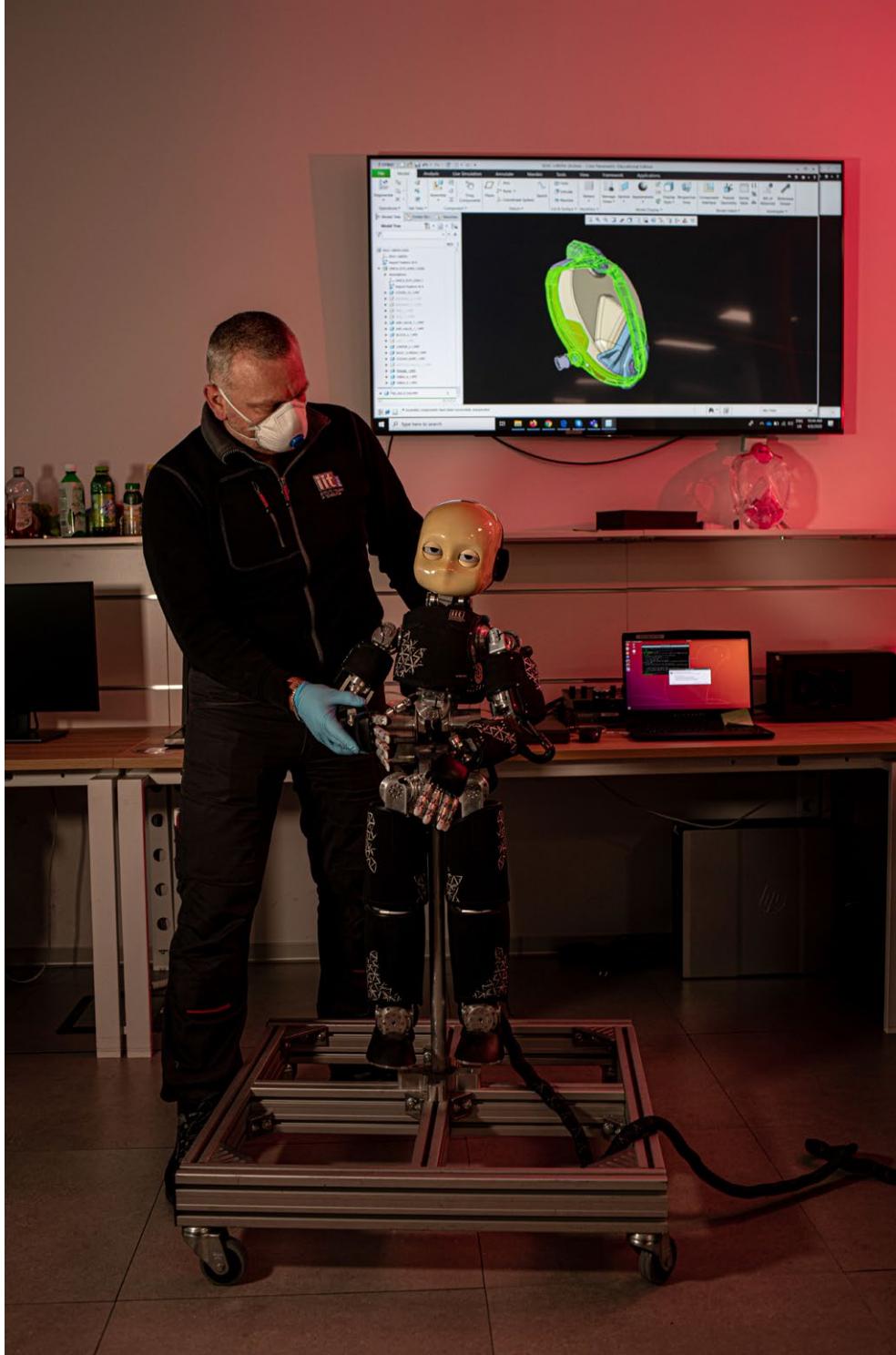
The laboratories of the Italian Institute of Technology in Genoa. Alessio Del Bue and his team have developed open source software to improve thermal imaging cameras and to detect body temperature by pinpointing the subject's forehead.

COVID - Tech

How disruptive innovation is being used to respond to the virus

- ▶ The current pandemic is creating new emergencies and new necessities, both for the present and the future
- ▶ Many solutions are appearing, thanks to technological innovations in various fields from medicine to agriculture
- ▶ Medical robots, modular hospitals, thermal imaging cameras, hydroponic greenhouses and many other innovations are being trialled

#GENERALNEWS #HEALTH #SCIENCE #TECHNOLOGY #ECONOMY



Genoa, Italian Institute of Technology. More accustomed to working on the development of I-Cub robots, the engineers are now studying how to certify the valves and masks that will be supplied to hospitals.



Inside the OGR (Officine Grandi Riparazioni) in Turin, a field hospital has been created for treating Covid patients. The innovative centrepiece of the hospital is CURA, a container transformed into a high-tech intensive care unit created by the Carlo Ratti Associati studio.



The headquarters of Planet Farms in Milan, where engineers are studying alternatives to traditional agriculture, which in this period is facing significant challenges due to the lack of available manpower.



Marco De Rossi, founder of the We School platform, the second largest digital teaching platform in Italy (after Google Classroom), that allows teachers to conduct their lessons online. The project won a Google Award in the education category.

At this unprecedented time, numerous ideas are being developed in order to help us understand the Covid-19 pandemic, analyse it, treat it and develop solutions for the future. Technology and innovation are undoubtedly central to this and important advances are being made in a number of fields, from medicine to agriculture.

Examples include telehealth robots to reduce the risk of infection for medical staff, or modular field hospitals, such as the open source project developed by Carlo Ratti Associati to create a ready-to-go intensive care POD housed in a shipping container that can be rapidly deployed to any part of the world. Then there are the thermal imaging cameras (developed by the Italian Institute of Technology) which will be installed at the entrances to offices and major transit points (airports, stations etc.) during so-called Phase 2.

Moreover, 3D printers are being employed to produce single-use valves for respirator helmets. Strides are also being made in the field of hydroponics to provide a potential starting point for the agriculture of the future, in which hyper-efficient productive systems can compensate for a lack of available manpower. Many technologies and innovations and just one goal: to combat the virus and protect us in the new world that will emerge after this crisis, a world that is sure to differ significantly from what went before.



The emergency room at the Abbiategrasso and Magenta Hospital. Doctors use AB Medical's Intouch, a remote device that allows them to avoid direct contact with patients potentially affected by Covid-19.



The Zucchetti company is developing Z-Care, an open source software that allows hospitals to monitor the condition of non-Covid related patients being treated in their own homes. This frees up beds for Covid patients. Only 3 programmers continue to work onsite at the company, while 900 of their colleagues are working from home.



Elisa Borghi, associate professor of clinical microbiology at the University of Milan, in her laboratory at the San Paolo Hospital in Milan uses a fluorometer donated by a Chinese company to analyse samples from Covid-19 patients.



Omnitech's Tommy robot provides support in the intensive care unit of Varese Hospital.



Workers from Reflex, a company specialised in sanitisation, deep clean the consulate of the United Arab Emirates. The company has had to reinvent ways of using equipment and cleaning products that were previously used in other contexts.



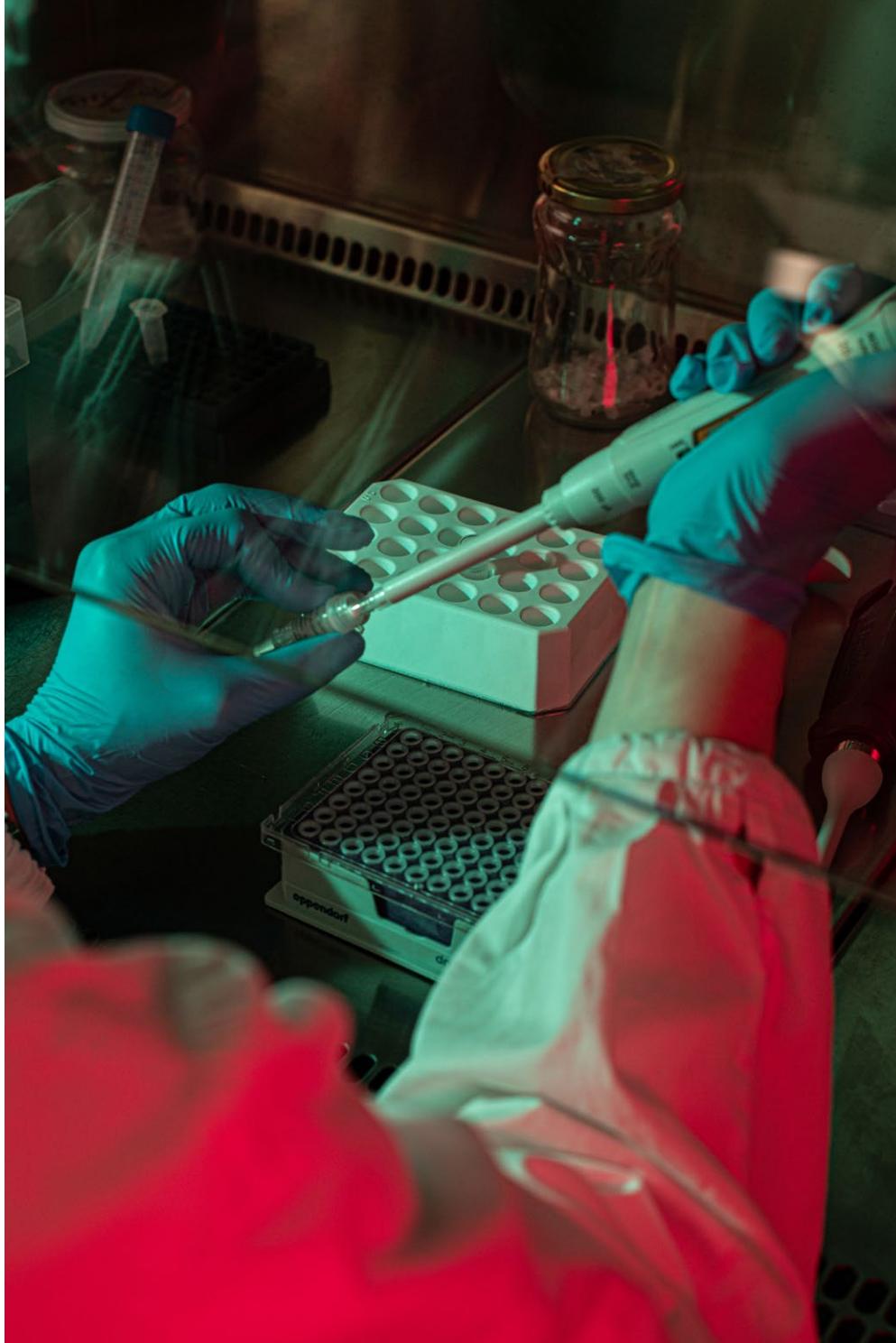
Bernardo Gamucci, Partner at The FabLab Milano. Together with other companies produces the valves that enable the masks to be connected to oxygen cylinders.



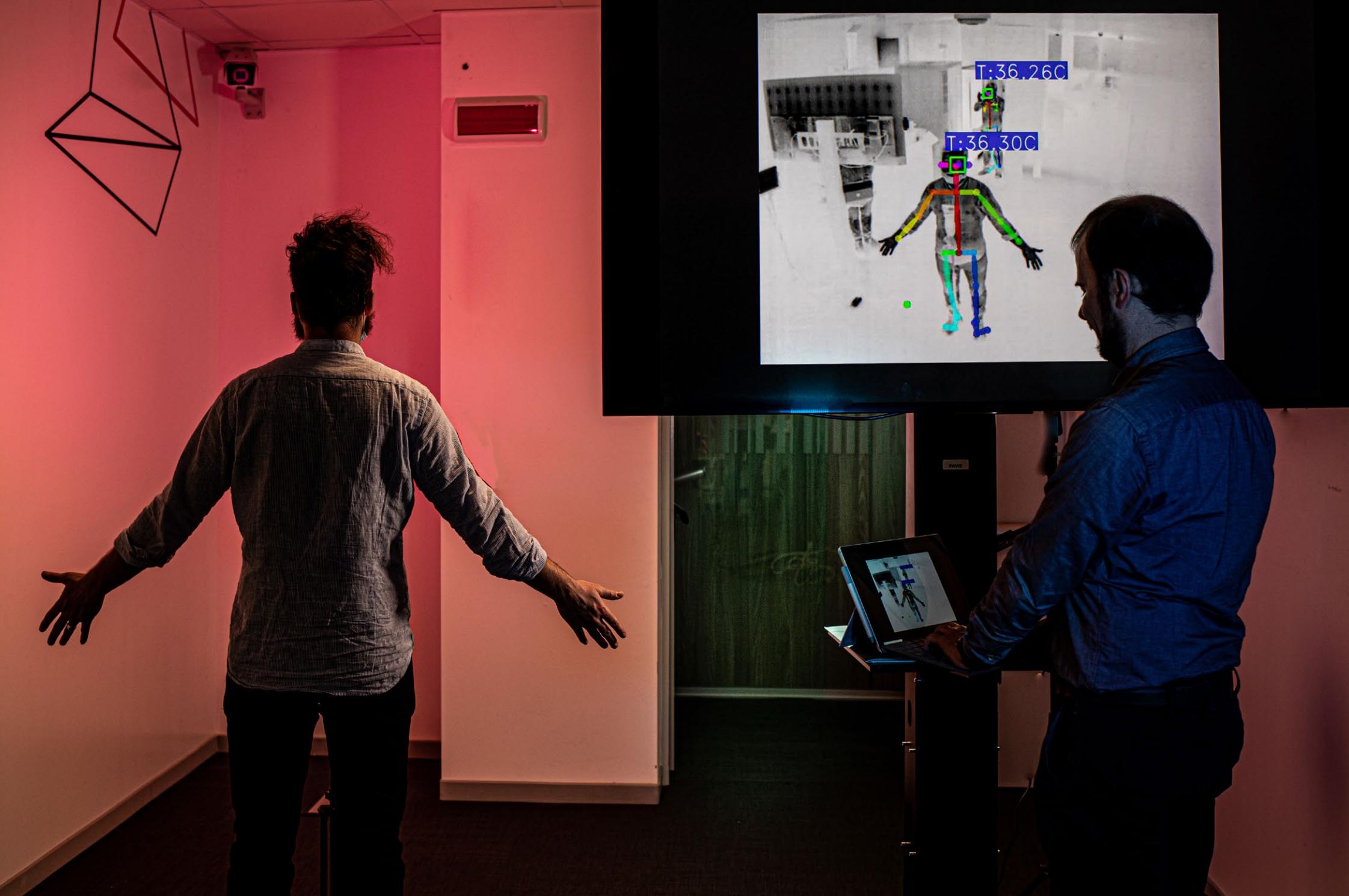
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Inside the Ideafactory in Milan. Mattia Aroldi (the founder) and Beatrice Cabrini prepare Venturi Valves made from powered nylon for use in the intensive care units in hospitals involved in the fight against Covid-19.



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Drones used during lockdowns in order to monitor and dissuade people from gathering. Many of these drones belong to civilians who are collaborating with the forces of law and order.



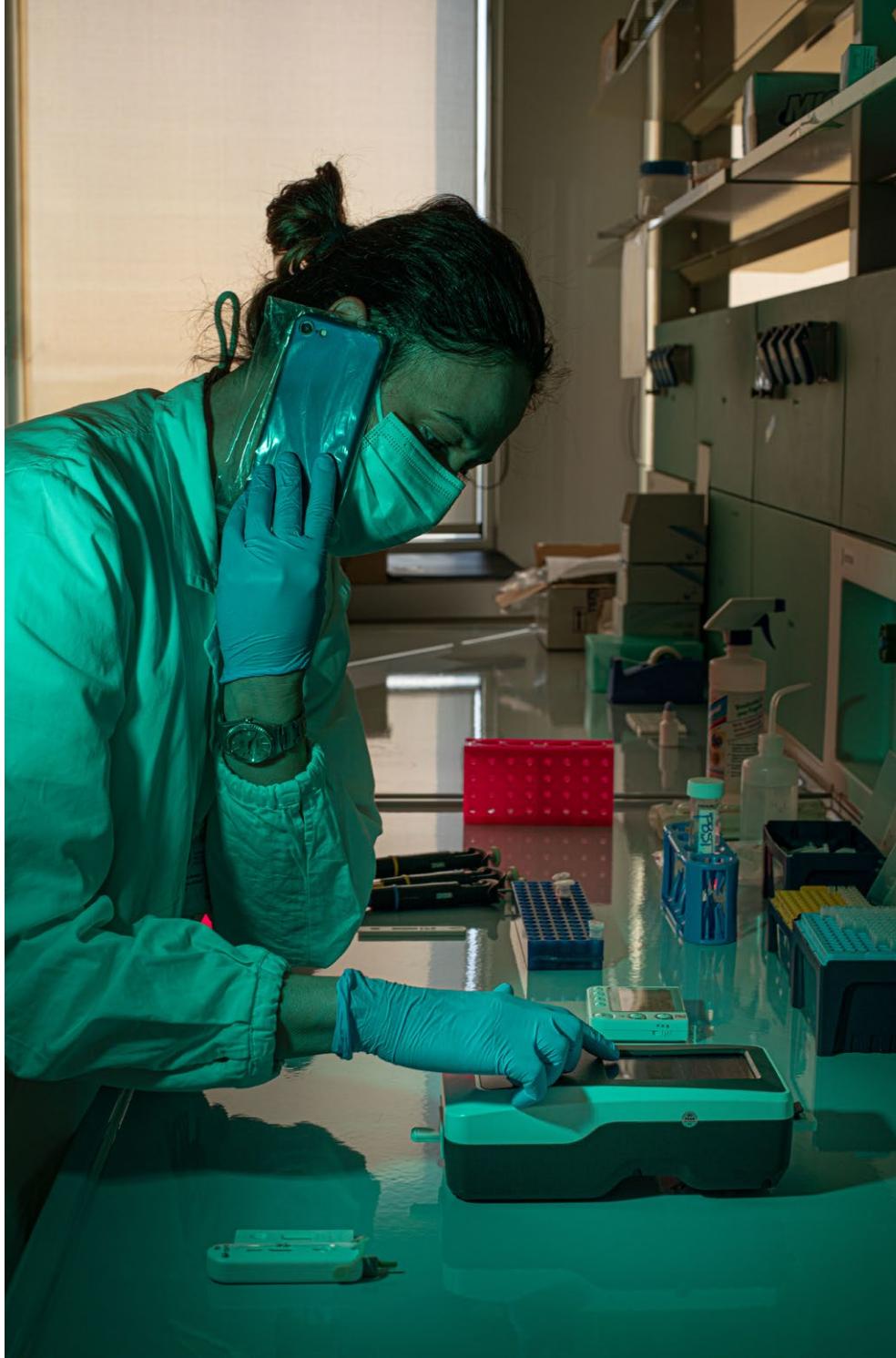
Based on an idea by Renato Favero, a former head doctor at the Gardone Val Trompia Hospital (Brescia), Decathlon snorkelling masks can be transformed into respirators. The Fab Lab, together with other companies produces the valves that enable the masks to be connected to oxygen cylinders.



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p a r a l l e l o z e r o

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