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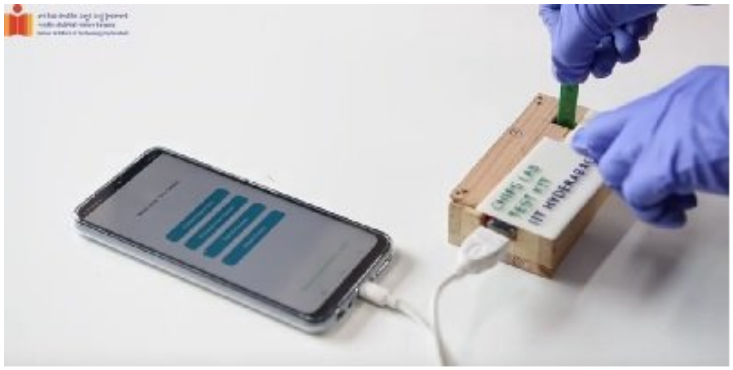
IIT-H develops AI-powered COVID-19 test

16 July 2021 | News

Validated by CCMB Hyderabad, it is ready for technology transfer



Indian Institute of Technology Hyderabad (IIT-H) research team led by Prof Shiv Govind Singh, Department of Electrical Engineering has developed an Artificial Intelligence (AI)-powered COVID-19 test that can be performed at an affordable cost at home after commercialisation and required approval from the Indian Council of Medical Research (ICMR).

The test kit can produce results within 30 minutes for both symptomatic and asymptomatic patients. The major benefit of this testing kit is that it does not require RT-PCR (Reverse Transcription Polymerase Chain Reaction), an expert human resource, and a BSL 2 lab facility for the extraction of RNA, so it has potential for one to take the test at home without expert supervision.

The Centre for Cellular & Molecular Biology (CCMB), Hyderabad has performed the validation of the rapid RNA electronic diagnostic device for detection of SARS-Cov-2 virus in the swab samples independently with the in-house samples and hospital samples as advised by ICMR. These samples were confirmed for their positivity or negativity by the RT-PCR method.

The validation report confirmed the kit's efficiency 94.2 per cent, Sensitivity 91.3 per cent, and Specificity 98.2 per cent. Each test costs around Rs 400 now. However, mass production of the testing kit will help to reduce the cost to around Rs 300 per test.

Govind Singh said, "We have already filed a patent for the device and are now looking for industry partners for ToT of technology for mass production."