

Thousands of UGM Covid-19 Breath Detection Tools To Distribute in Early 2021

Tuesday, 29 December 2020 WIB, By: Natasa Adelayanti



Five thousand units of GeNose C19, Covid-19 breath detection tool made by the UGM research team, are ready to distribute in mid-February 2020. Previously, this tool has received a distribution permit from the Health Ministry on Thursday (24/12).

“The production capacity per February 2021 will be more than 5,000 units, available for use and distribution throughout Indonesia,” said Research and Technology Minister/Head of Research and Innovation Agency (Menristek/BRIN), Bambang Brodjonegoro, in the online press conference, Monday (28/12).

Bambang said the flexibility GeNose C19 use allows its placement in airports, stations, terminals, hospitals, offices, and other public places such as tourist attractions and shopping centers. This enables people to do activities safely and comfortably for economic recovery.

Bambang highly appreciates this invention. GeNose C19 is capable of strengthening the 4T surveillance system, testing, tracing, tracking, and treatment. Besides, keeping the health protocols of wearing masks, washing hands, and physical distancing is still a must to minimize the novel

coronavirus spread.

“Indonesia needs to be independent in conducting testing and monitoring, especially for screening. We use PCR testing, which is the gold standard. But, for screening, it requires our ability to innovate to produce a tool that can screen in a fast, relatively comfortable, and highly accurate manner,” he explained.

He hopes this innovation can encourage economic recovery. Thus, it provides not only support for the health sector but also aids to restore economic activity.


Bambang adds GeNose contributes to increasing economic growth through medical device innovations. It saves the budget for the Covid-19 rapid test and encourages the growth of high-value economic innovations. It also accelerates the detection process of the infected, helps mitigate the Covid-19 spreading risk in various regions, and builds public confidence in the domestic industry's capability to produce innovative devices.

“Thank you to the UGM research team led by Prof. Kuwat Triyana for the 4T contribution to handle Covid-19. We hope for a smooth process and support from the Health Ministry to continue to innovate, as well as the support from the Covid-19 Task Force to implement the tool within the 4T process,” he hoped.

The tool developed by the UGM research team since March 2020 has proven to have a sensitivity of up to 90 percent and a specificity of up to 96 percent. A Genose C19 unit costs Rp 62 million and is capable to quickly detect Covid-19 via exhalation in about 2 minutes without reagents or other chemicals.

Dr. Dian Kesumapramudya Nurputra, a member of the GeNose UGM research and development team, said currently 100 units of Genose C19 have been produced and all sold-out. It will produce the other 100 units at a later stage with the help of Kemenritek/BRIN. 100 units with the right distribution are able to conduct tests at least 12 thousand people per day at a relatively affordable cost.

“Insya Allah [God willing], with the help of several institutions and philanthropy, the production will be around 2 thousand by the end of January, 5 thousand in mid-February, and 10 thousand by the end of February. Hopefully, 10 thousand units will provide tests for around 1.2 million people a day. Massive Covid-19 testing will result in a quicker finding of the positive, and later have them isolated, treated, and recovered immediately. Those who are negative can continue carrying out their normal activities, but still practice the health protocols,” he explained.



With production to escalate, GeNose is available for even more widespread distribution. Thus, it can help to tackle Covid-19 through its fast detection of the coronavirus at the tracing and tracking stage.

On this occasion, Dian also shared how to use and maintain GeNose C19. GeNose is easy to use and maintain. Checking and maintenance are conducted after the examination of 100 thousand breath samples or if interference occurs. It is enough to clean the machine by applying disinfectant liquid, but not the spray one. Ensure the engine is off before and during cleaning.

“If the detection result is positive, it is advisable to take the second breath within 30 minutes after the first take. If the results are consistently positive, it is advisable to continue the examination with PCR confirmation,” he explained.

UGM GeNose C19 receives support from Covid-19 Innovation Research Consortium of the Ministry of Research and Technology/National Agency for Research and Innovation, the State Intelligence Agency, the Indonesian Army, the National Police, the Ministry of Health, the Indonesia Endowment Fund for Education, and private parties including PT Yogya Presisi Tehnikatama Industri (mechanical part), PT Hikari Solusindo Sukses (electronics and sensors), PT Stechoq Robotika Indonesia (pneumatic), PT Nanosense Instrument Indonesia (artificial intelligence, electronics, and after-sales), and PT Swayasa Prakarsa (assembly, licensing, standards, QC/QA, business). Acting as the facilitator and coordinator of this consortium synergy is UGM Science Techno Park (UGM STP) as a downstream medium for innovation to answer the urgent needs of today’s society.

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