

Coronavirus lockdown: Goods trains deliver N95 mask samples for DRDO tests

Not taking chances with quality, the defence lab has been pressed into service and it has so far received samples from manufacturers in Ludhiana, Delhi and Ambala

By Avishek Dastidar

New Delhi: The DRDO laboratory in Gwalior is testing N95 masks after receiving samples from bulk manufacturers via goods train drivers as the country prepares to mass-produce protective gear for medical staff on the frontlines of the COVID-19 outbreak.

As per government estimates, 2.4 crore N95 masks will be needed up to June amid rising infections and this vital transportation has come through a collaboration between Indian Railways and the Textiles Ministry. Not taking chances with quality, the defence lab has been pressed into service and it has so far received samples from manufacturers in Ludhiana, Delhi and Ambala.



“No one wants to take any chances with the quality. So we had been given standards, based on which we have made the prototype and now they have been sent for testing. We are awaiting results,” said Ashwani Garg of Pious Textiles in Ludhiana, which can produce around 3,000 masks per day.

Sample packs carrying a couple of masks are handed over to train drivers who pass them on to station functionaries in Gwalior who then provide them to DRDO officials.

Government officials said that stringent testing is also needed for body suits for which the government is working with a projected requirement of 1.5 crore pieces up to June and that there can be “no room for error in quality”.

“There has been feedback from medical professionals that body suit is vital even while treating non-corona patients to protect themselves against asymptomatic transmission. We are looking at huge numbers based on our projection,” said a senior government official working on the project.

The Textiles Ministry has sounded out all the major players and is pulling samples through strict testing protocol. The DRDO testing is in addition to its testing regime at the South India Textile Research Association in Coimbatore.

With a lockdown in place, sending samples to labs has been a challenge. “It was discussed that this is a vital transportation need, and taking the road was practically not possible. So the solution worked out was that since our goods trains now run as fast as mail/express trains, we could help send those packages through our drivers,” said a senior railway official.

<https://indianexpress.com/article/india/coronavirus-lockdown-goods-trains-deliver-n95-mask-samples-for-drdo-tests-6341152/>

Shared ventilators in times of coronavirus: Start-ups can help govt breathe easier

The company has also tied up with Andhra Pradesh MedTech Zone, an enterprise under the Andhra Pradesh government to create capacity for 5,000 more units

By Ishaan Gera

Given that the estimated 40,000-50,000 ventilators in India would not be enough in case the COVID-19 numbers reach levels that the worst-affected countries have witnessed, the government is working on all possible solutions, including enlisting automakers, PSUs and the Defence Research Organisation (DRDO), to ramp up their manufacturing.

Even with that, the requirement could surpass availability if the pandemic ends up affecting lakhs, as projected by some mathematical models. So, DRDO will be working with multiple private sector firms to create a splitter for ventilators so as to allow many patients to simultaneously use a single ventilator.

any start-ups, however, have been fielding such innovations for quite some time. AgVa Healthcare, founded by Dr Deepak Aggarwal of AIIMS, and Diwakar Vaish, a robotics specialist, had in 2018 announced a low-cost ventilator that could be cheaper than a flagship premium smartphone. The company used technology to compress a ventilator to small form-factor and bring down the cost to a tenth of an existing, traditional ventilator, it can also convert an Android tablet to work as a ventilator.



Maruti Suzuki India has tied up with AgVa and would be creating ventilators based on the latter's technology. MSI said it would achieve a production volume of 10,000 units per month. "We are targeting 20,000 units in production. Since our first iteration, we have added new features. The new ventilators are very rugged and have features which can match a `15-lakh ventilator," Aggarwal, co-founder, AgVa Healthcare, said. The company claims to have customised it to deal with viral shedding by COVID-19 patients. "We have also installed a medical-grade negative ion generator (not there in any ventilator). Negative ions inactivate the virus in respiratory tubing and airways, and a positively charged collection mechanism collects them," Aggarwal said.

The company has also tied up with Andhra Pradesh MedTech Zone, an enterprise under the Andhra Pradesh government to create capacity for 5,000 more units.

Indian start-ups are delivering innovations that can aid India's Covid-19 response. Pankaj Gupta, managing partner of Singapore-based EthAum Venture Partners, threw a challenge on Twitter, asking people to create a four-way splitter for ventilators, which could be used on ventilators as these machines operate only at 25-30% of their capacity. Gupta initially had thought of a ventilator 'hackathon', but soon pivoted the challenge towards creating a splitter, after coming across a 2006 report of doctors in Michigan using this technology. He took open-source designs and tested them in Jaipur.

"We are working including a flow controller. So, we will be creating both a simple splitter and a complex mechanism. We want to bring all 3D printers on board," Gupta said.

Another healthcare start-up Dozee has a contactless health monitor, which can be used to track heartbeat, respiration rate and stress. Pritish Gupta, COO and CBO, Dozee, said the company has a cost-effective solution to health tracking and creating makeshift ICUs. "The monitor uses AI to track vibrations and does it with 98% accuracy. As respiration is affected in COVID-19, we can

keep regular track of respiration, sending automatic alerts when respiration tends towards dangerous levels. Besides, the app controlling the device can generate a dashboard, so nurses can spend more time taking care of the observations rather than recording patients' vitals," he said.

Another start-up Niramai, engaged in breast cancer screening, uses thermalytix to screen women for breast cancer. It said it is developing a technology where a device can monitor the temperature of groups of people. Geetha Manjunath, CEO & CTO, Niramai, said: "Thus, we can do remote fever screening from 10-12 feet. While we cannot monitor crowds at present, groups of people can easily be screened."

<https://www.financialexpress.com/industry/sme/shared-ventilators-in-times-of-coronavirus-start-ups-can-help-govt-breathe-easier/1915267/>

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DRDO is stepping in to build ventilators and manufacture masks

New Delhi: The Defence Research Development Organisation has developed a prototype ventilator that can be used for multiple patients, its chief Satheesh Reddy said on Monday, amid a spike in the number of coronavirus cases in the country. He added the model is being improved to include changes suggested by medical researchers and doctors and the new version should be ready by next week.

"We are attempting to take the output of one ventilator. The mechanism makes it usable for multiple patients. We have developed the first model. We have seen it is working. There are some medical researchers, doctors who have advised us to incorporate features. We are working on it," he said.

Reddy said this is a "last-minute resort" if the number of coronavirus patients increases and there is shortage of ventilators.

"By next week it should be ready with the suggestions made by the doctors and medical researchers," he said.

The DRDO has prepared ventilator designs in the past and passed it on to the industry.

Separately, the Ministry of Health said the DRDO will begin manufacturing 20,000 N-95 masks per day from next week.

The ministry has also asked the Bharat Electronics Ltd, a public-sector undertaking under the Ministry of Defence, to manufacture 30,000 ventilators in next two months.

Among private players, Agva Healthcare, Noida, has been given an order to manufacture 10,000 ventilators within a month. Their supplies are expected to commence in the second week of April, the ministry said in a tweet.

<https://www.businessinsider.in/science/health/news/drdo-is-stepping-in-to-build-ventilators-and-manufacture-masks/articleshow/74905607.cms>

