

विज्ञान एवं प्रौद्योगिकी विभाग DEPARTMENT OF SCIENCE & TECHNOLOGY





Office of the Principal Scientific Adviser



MAY 2020

STARTUP SOLUTIONS FOR COVID-19 SUPPORTED BY COVID-19 TASKFORCE







Ministry of Commerce and Industry





ADDVERB TECHNOLOGIES PVT LTD

Name: Pavani KatuboyinaProduct: UV Disinfectant RobotStartup Stage: Early TractionLogistical Support: Permission to open factories and custom clearanceWebsite: https://addverb.com/ Location: Uttar PradeshTarget Audience: Hospitals, Quarantine Centers, Railway stations, Metro stations, Malls, and SchoolsPrice: INR 15 LakhsDestical Support: Permission to open factories and custom clearance	Details Of the Founders	Details Of the Product	Market Status	Support Needed
	Website: https://addverb.com/	Target Audience : Hospitals, Quarantine Centers, Railway stations, Metro stations, Malls,	Price: INR 15 Lakhs	

- The Startup has developed a disinfectant Robot. The product is a combination of UV light technology on a mobile robot with intensity meter to disinfect large areas so that humans are not near the light or virus.
- The residence time can be controlled based on the nature of the surface, it can be much more effective in disinfecting the large area.
- The startup has used the best battery technology which enables the cleaning/ disinfection of several rooms before it needs to be recharged.
- Moreover, they have used fast charge technology so that robots can be in the business of cleaning again after 30 minutes of break. The Robot has been deployed in a quarantine facility in Noida.









WEINNOVATE BIOSOLUTIONS PVT. LTD.

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Milind Choudhari Website: www.weinnovatebiosolutions.com Location: Pune	Product: NanoAgCide Target Audience: Hospitals and Homes	Startup Stage: Validation Price: INR 100 for 100 ml Production: 500 Litres per day	License : They need assistance in getting CDSCO's Manufacturing License
 The startup has come up with a non- hands and environmental surfaces. Colloidal silver is a potent antiviral a 	Nano Age Cid@		

- Colloidal silver is a potent antiviral and has shown its efficacy against coronavirus.
- In the current scenario where the virus spreads through surfaces (fomites), their solution, free from hazardous chemicals and having no risk of flammability compared to alcohol-based disinfectants, is need of the hour.
- They are ready for manufacturing.









MAYURA ANALYTICAL LLP

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Mayura Website: www.mayuraanalytical.com/ Location: Bangalore	Product : Ozone sanitization - works on surfaces, water, and air Target Audience : Offices, homes, hospitals and public spaces	Startup Stage: Scaling Price: INR 20,000 Production: 20 units per day	NA

- Ozone is known to kill 99.7% of all microbes including viruses.
- Ozone gas has been proven to kill the SARS coronavirus and since the structure of the new 2019-nCoV coronavirus is almost identical to that of the SARS coronavirus, it is relatively safe to say that it will also work on the new coronavirus.
- This could be a cost-effective large scale sanitizing process for industries, homes, public spaces with multiple applications for surfaces, indoor-air, and even water.
- This is also a Green technology as it doesn't need anything except electricity to run with no residue generated in the process.









LEAF BOX TECHNOLOGIES PRIVATE LIMITED

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Kiran Raj Website: http://airleafbox.com/ Location: Bangalore	Product : Ozone sanitization - works on surfaces, water, and air Target Audience : Government offices, Police stations, Airports, and Railway stations	Startup Stage: Early Traction Price: INR 15,000 to 2,00,000 Production: 50 units per day	Testing : They need support from testing labs to test the product Logistics : Needs support in shipping components from other cities of the country

- The startup proposes to utilize UVC specifically in mops and UVC beamers (remote-controlled devices) for surface disinfection, in devices to disinfect portable equipment like mobile phones, laptops, gloves, etc., and in air purifiers for air disinfection. Such products are easy to use, extremely effective in addressing the current pandemic, and most importantly, use the far lesser time to implement/disinfect.
- The startup has developed three products; UV-C Sterilizer box, UV-C Mop, and UV-C purifier.
- This solution is already being effectively implemented at the epicenter in China. It has shown to contribute towards flattening the curve of infections.











CHERRIES ENGINEERING AND INNOVATION INDIA

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Rakesh Kasba Website: www.mayuraanalytical.com/ Location: Bangalore	Product : Jalodbust Target Audience : Municipalities, Urban Local Bodies, Panchayats, Building, and Real estate management, etc	Startup Stage: Validation Price: INR 90,000 Production: 10 units per day	Funding : It needs assistance in funding for INR 50 lakhs for semi-industrial design.

- Coronavirus is suspected to survive in faecal waste for a long time. Especially creating problems because it gets mixed up and the sanitation workers come in contact with faecal waste especially in the incidents of Manual Scavenging.
- Jalodbust is an indigenous invented system for dislodging, liquefying and removing faecal sludge from Leach pits, Septic tanks and manholes replacing human handling.
- A system for replacing Manual Scavenging which holds a big threat from the suspected infection in the Faecal waste.



• The field validation for the product is complete.







RITE WATER SOLUTIONS (I) PVT LTD

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Abhijeet Gaan Website: www.ritewater.in/ Location: Maharashtra	Product : Encee Chlor - Disinfectant Generator Target Audience : Hospitals and Municipal Local	Startup Stage: Scaling Price: INR 75,000 to 2,40,000 Production: 10 units per day Status: Ready for Deployment	Logistics : Factory closed due to lockdown and need support in transportation

- Encee Chlor is an onsite disinfectant generator which generates hypochlorite solution from common salt by the process of electrolysis.
- The only raw material needed is common edible salt and water and it produces a 0.7-0.8% hypochlorite solution which is a very strong sanitizer.
- WHO and UNICEF recommend 0.5% hypochlorite solution for cleaning of surfaces, hospital equipment, linen, etc and 0.05% for hand wash and general disinfection for protection against coronavirus.
- With this generator, anybody can produce disinfectant locally and ensure complete sanitation against COVID-19.









KADOURI INSTRUCTIONAL SYSTEMS LTD

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Ariel Website: www.hygrooms.com/Store Location: Tel Aviv, Israel	Product: Prefabricated modular rooms based on HYG Technology Target Audience: Hospitals, Isolation Units, Primary Health Care centres, Nursing homes, Offices	Startup Stage: Scaling Price: INR 38,000 Production: 700 units per day	NA

- Upon touching of surfaces by COVID infected patients, the SARS-CoV-2 virus stays on surfaces for days/hours. It is, therefore, necessary to have anti-microbial surfaces that can help in killing the virus before it latches on to a healthy host.
- India needs to ramp up separate quarantine facilities based on the level of symptoms and therefore it is necessary to segregate people showing mild symptoms from those displaying major symptoms.
- The HYG rooms are prefabricated isolation rooms, measuring 3mx3mx2.4m, and can be deployed at a rapid pace. These are effective not only against the SARS-CoV-2 virus but also other Coronavirus also.









LARGE AREA SANITIZATION AND STERILIZATION					
	ACE BIO HEALTHCARE				
Details Of the Founders	Details Of the Product	Market Status	Support Needed		
Name: Ashok Kumar P Website: www.acerenewtech.com Location: Tamil Nadu	Product : Patholyte (Stable and Novel form of HOCL) Target Audience : Government Institutions, Hospitals, Large area disinfection, hand sanitization, and food sanitization.	Startup Stage: Validation Price: INR 150 per litres Production: 5,000 units per day Status: Ready for Deployment	NA		
 Patholyte is a non-chemical activated solution and is an Oxidant solution with chemical structure HOCl (Hypochlorous) acid) which is a free chlorine molecule. Patholyte is the dominant free chlorine species in chlorine solutions that have a slightly acidic to neutral pH (pH 5 to 6.5). Patholyte is a much more powerful oxidant than sodium hypochlorite (or chlorine bleach) and hence it is a viable alternative to harmful chemicals that are being currently used as a disinfectant for 					



sanitization.





BNG SPRAY SOLUTIONS PRIVATE LIMITED

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Arindam Ghatak Website: http://bngspraysolutions.com Location: Karnataka	Product: Fog Cannon with Swirl Airblast Target Audience: Municipal corporations in charge of large-scale sanitization	Startup Stage: Validation Price: INR 6 lakhs per unit Production: 1 unit per day	Funding : They need assistance in the funding of INR 70 lakhs. Deployment : They need assistance in deployment

- The company proposes to use its energy-efficient mist cannon for disinfecting public places using liquid disinfectant solutions.
- The mist cannons are designed for spraying high volumes of disinfectant solution (2-8 m3/hour) over large areas with a throw range of 30-100m (the current prototype has a throw of 30m).
- The mist cannon is mounted on a trolley that can be towed around in a tanker and infected public areas such as malls, bus stands, airports, railway stations, etc. can be sprayed with the disinfectant in the form of fine mist.
- The mist cannon also uses patent-pending dual swirl dual shear atomization technology that helps break down the droplets into 4 times small diameters compared to existing solutions. This helps in the more uniform application of the disinfectant.









NEO INVENTRONIX

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: G S Sirisha Location: Hyderabad	Product : Germiban Target Audience : Hospitals, Quarantine Centres, Railways, Hotel, Airlines, Metro, Food Processing industries, etc.	Startup Stage: Validation Price: INR 60,000 Production: 50 units per day	Logistics : They need assistance in procuring raw material.

- GermiBan uses established & proven technology for hospital disinfection & sterilization of non-living devices with a triad of UV-C Lights, Ionizer and Ozoniser.
- Another added advantage is the provision of PM 10 & 2.5 free air through the HEPA filters attached. The Power Consumption is about 500 watts; and in operation, for an hour it consumes 1 unit of power but an average of 10 – 15 mins of operation of the device is recommended.
- Room area Coverage is about 25ft*30ft = 800sqft. The machine is 5ft* 2ft and weighs about 50 kgs. In the current scenario, mass disinfection tools that are chemical-free and easy to use are required.
- The device is chemical-free and partly automated, the devices help achieve almost 99.99% disinfection in hospitals and other mass utilized areas. The technology is being developed at the AIC-ALEAP WE-Hub (Supported by AIM, NITI Aayog, GoI).







JIVANAM INNOVATIVES PVT LTD

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Shravan Mutha Website: jivanam.net/ Location: Pune	Product : Sodium Hypochlorite disinfectant water generator Target Audience : Hospitals, Homes and Office spaces	Startup Stage: Early Traction Price: INR 3,000 Production: 1,000 units per day	Logistics : They need assistance in importing raw material

- Due to the current COVID situation across the country, there is a high demand for personal care products. Due to a shortage of its supply with no availability, there are current market rates are also higher.
- With this product, everyone can generate many disinfector liquids at their homes, offices as well as hospitals. Ingredients required for making these are also rapidly available.
- Currently, with this kind of product, it can generate Sodium Hypochlorite which can be sprayed to any place at larger surfaces and various spaces.
- This product will just generate a disinfector kind of liquid with a period of 10-20 min. As the product is made using MMO anode it can last for 3-5 years.









MARUT DRONETECH PRIVATE LIMITED

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Prem Kumar Vislawath Website: marutdrones.com Location: Hyderabad	Product : Marut Disinfection Spraying Target Audience : State Governments	Startup Stage: Scaling Price: INR 8 Lakhs Production: 6 units per day	Logistics: They need assistance in procuring raw material and custom clearance. Funding: They need funding support of 1.5 crores.

- Marut Drones has designed and deployed customized drones to undertake anti-mosquito operations. It has been working with Greater Hyderabad Municipal Corporation (GHMC) for antilarval spraying in lakes around Hyderabad for cleaner lakes and positive health outcomes.
- Further, these drones can be effectively used for spraying disinfectants in public spaces like airports, SEZS, warehouses, parks, railway stations, etc to disinfect them and stop the spread of the virus.
- These drones can carry up to 10 litres of disinfectant. Operated manually, they can cover about 20 kilometres and spray 200 litres a day.
- The startup has been deployed in the districts of Sangareddy, Kamareddy, Warangal, Karimnagar, Naraynpet, and several border districts of the state of Telangana.









UDYAMAT MA VIRAMASVA PVT. LTD.

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Abhijeet Kumar	Product: Mevahan Mobile	Startup Stage: Early Traction	Funding: It needs support in
Website: www.mekvahan.com	Application	Price: starting price INR 199	funding of around 25 lakhs.
Location: Delhi	Target Audience: Patients carrying vehicles, public transportation system	Production : 10 vehicles per km	

- Mekvahan introduces the car-care plan for the people living in the corona affected areas or cities. Through Mekvahan's car-care plan, the user gets its car sanitized from the inside and outside with deep cleaning.
- Mekvahan offers this solution at the doorstep of the customer at a very reliable rate. Cleaning removes organic matter, salts, and visible soils, all of which interfere with microbial inactivation.
- The car is the object that interacts with the outside environment and the diseases present in it. So, it is mandatory to make it safe and secure. Mekvahan provides the car-care card to the cab drivers so that they can showcase their car cleanliness to their passengers.
- Car sanitizing kit for the customer: A small kit comprising a hand sanitizer, wet wipes, and a mask in the glovebox.









OMG INNOVTIONS LLP

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Amul S Bahl Website: www.godsownstore.com Location: Delhi	Product : Whiff Bio Spray Target Audience : Corporate & Government offices, malls, hotels, residential complexes, schools, etc.	Startup Stage: Early Traction Price: INR 3,900 Production: 5,000 units per day	NA

- WHIFF Bio Spray a unique patented technology that has potent anti-microbial and anti-viral properties. This property could be used to eliminate and neutralize disease-causing bio-agents in the air quickly, safely, and effectively.
- Whiff Bio Spray can prevent this spread through the air- both outdoor as well as indoor. It uses the QLEN model (Quick- Localization- Elimination and Neutralization model) to combat bio-agents
- Outdoors: Sprayed out-doors through low flying drones to neutralize the spread of the pathogens. This is done in small circumference concentric circles to cover all areas under consideration and create an overlap, so no area is left out.
- Indoors: The same spray in small bottles can be provided to the different households to clean up any infection and break the chakra of infection. This will impact small social units like colonies and families.









PRAANAPOORNA COLLECTIVE LLP

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Smitha Website: www.Praanapoorna.com Location: Karnataka	Product: Natural enzyme- based disinfectant cleaner Target Audience: Hotels, Hospitals, IOCL	Startup Stage: Scaling Price: INR 150 per litres Production: 1,000 litres per day	Logistics : It needs assistance for procuring of raw material.
 Too many chemicals used to sterilize and killing both good and bad microbe as an alternative natural enzyme for disinfecting that is less toxic. The company have developed a natural disinfectant effective against bacteria and fungi The company has proven lab test with a swab test against ecoli-bacteria The company can start local production of disinfectants with citrus peels available from juice shops to replace toxic and expensive chemical disinfectants. 			







SWISS NEWATER INDIA PRIVATE LIMITED

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: K V Ravi Prakash Website: www.swissnewaterindia.com Location: Maharashtra	Product : HydroCleaner [™] Target Audience : Central and State government, Municipal Corporation, Defence Forces, etc.	Startup Stage: Early Traction Price: Flash Machine INR 7,56,000 Bulk Machine: INR 8,54,000 Production: 1 Machine per day	NA
 Machines have been pre-programm the customer's requirement and the disinfecting locations as under: Light disinfection/spray used fo 			

- Glass, walls and tabletop cleaning & slightly degreasing / spray
- Disinfection & degreasing / spray used on Slabs of Pantries & Kitchens
- Heavier disinfection / spray used for washrooms/ toilets, etc.
- Rigorous chemical and microbiological testing of all the four products has been done from an authorized laboratory in India. All four products are tested against several bacteria and fungus such as E. coli, Candida albicans, etc. All the products are 99.99% effective against bacteria and fungus.









THE RIDGE ENVIRONMENT CONSULTANTS

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Gaurav Prakash Paja Website: www.theridgesolutions.com Location: Himachal Pradesh	 Product: Aireltech Ridge Ozone Automatic Disinfection & Sterilization Machine Target Audience: Hospitals, Transport Dept., Educational Institutions, etc. 	Startup Stage: Early Traction Price: INR 30,000 + GST + Freight Production: 5 units per day	NA
 Aireltch Ridge Ozone technology uses ozone gas for sterilization and disinfection. Ozone which is a very strong oxidizing agent is an extremely fast-acting disinfectant/sterilizer. Ozone being a strong oxidizing and sterilizing agent to kill pathogens in a very effective way can be useful for indoor disinfection/sterilization in below applications: Sterilization hospital operation theatres, wards, etc. Sterilization of cars, buses, and train coaches. Sterilization of medical equipment, cold storages, food packaging places, etc 			







MYLO SOLUTION PVT LTD

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Arjun Kumar Website: www.atterolabs.com Location: Maharashtra	Product : UV Disinfection Target Audience : Hospitals, Isolation Units, Primary Health Care centres, Nursing homes, Offices	Startup Stage: Validation Price: INR 60,000 Production: 30 units per day	Logistics: It needs permission for movement in the supply chain. Funding: It needs funding of 35 - 45 lakhs
• The company has developed a solution inactivate pathogens on any surface.			
 Current manual cleaning only reduces microbial contamination by 36%. The solution provides a 99% Disinfection in under 8 Minutes. Additionally - they have created a solution that is comparable to solutions abroad at less than 1/3rd the cost. 			







LARGE AREA SANITIZATION AND STERILIZATION				
	DEN INDIA			
Details Of the Founders	Details Of the Product	Market Status	Support Needed	
Name: Vansh Gupta Website: oxygarden.com Location: Haryana	Product : Forest Target Audience : Hospitals, Isolation Units, Primary Health Care centres, Nursing homes, Offices	Startup Stage: Early Traction Price: INR 55,000 Production: 25 units per day	Funding: It needs funding of INR 95 lakhs.Deployment: It needs support in the deployment of the product.	
 The team of OxyGarden has develop indoor air naturally. The patent-pend levels of indoor air pollution but also fresh oxygen with natural humidifica They have developed a technology ta automated airflows and artificial lighter 	Grow Light Promotion on an advector in program of the provide and program of the provide and provide and provide and provide and pr			
• It controls the transpiration in plants that are grown in an aerated medium consisting of activated charcoal, which makes it lighter than soil. The polluted indoor air is absorbed through the plant roots, after which it passes through a carbon filter.				







VIROBLITZ SOLUTIONS PVT LTD

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Dr. Syriac Joseph Website: viroblitz.com	Product : Viroblitz Air Steriliser	Startup Stage: Early Traction Price : INR 1.5 lakhs for 400 sq. ft.	Logistics: It needs assistance in the movement of supply chain
Location: Kerala	Target Audience : Hospitals and quarantine facility	Production : 500 units per day	

- "Viroblitz" is an Air Steriliser/Deodoriser where the company used Low Energy Cascade Oxidation (LECO) process to sterilize the air. This doesn't need chemicals or HEPA filters or UV for sterilizing the air.
- This technology oxidizes any organic molecule, it can not only sterilize but also deodorize the air. It removes the bad odour-causing of Volatile Organic Compounds (VOC). Therefore, "the dream of a germ-free and odour-free hospital/home environment can be made a reality by using this technology".
- LECO technology breaks the Carbon Hydrogen bond of all the microorganisms, the destructive power is irrespective of the type of microorganisms or viruses, therefore our technology should also remove the Coronavirus from the air which in turn reduces the infection rate substantially.









ZTRIC INDIA PVT LTD

Details Of the Founders	Details Of the Product	Market Status	Support Needed
Name: Jayant Mhetar Website: www.ztric.com Location: Maharashtra	 Product: Nexar is a Self-Sterilising Multi-Block Polymer Target Audience: Hospitals, Public and private transports, Offices 	Startup Stage: Validation Production: 100 Kg per day	NA

- Nexar polymer is a Self-Sterilising Multi-Block Polymer so once it is applied on the surface it has the potential to kill viruses for many days and help prevent community spread of the virus.
- It can protect healthcare providers Doctors, Nurses from getting infected via surface contact contamination. VirusCavach (Nexar) is a solution that can provide Anti-Viral coating to surfaces that commonly spread any virus e.g. Hospital Equipment to Public Transport.
- Nexar polymer is a Self-Sterilising Multi-Block Polymer so once it is applied on the surface it has the potential to kill viruses for many days and help prevent community spread of the virus.
- Nexar polymer is already registered and has been sold commercially in other applications in the United States, Europe, and other countries. If proven effective and approved, it can be made commercially available in India.





