



Ministry of Science & Technology

CSIR-Central Scientific Instruments Organisation (CSIO) transfers the UV Disinfection technology to combat SARS-CoV-2 to 27 indigenous manufacturers



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There has been increasing evidence for airborne route of transmission of SARS-CoV-2 via aerosols which is now considered to be important by international agencies WHO, REHVA, ASHRAE and by health authorities in several countries. The airborne transmission is a major risk in indoor settings. Significantly, research carried out by CSIR constituent labs, Centre for Cellular and Molecular Biology (CSIR-CCMB) and CSIR-Institute of Microbial Technology (CSIR-IMTECH) in September 2020 had demonstrated experimentally that SARS-CoV-2 viral particles could be detected in air even after 2 hours of exit of infected persons from a room and at distances much greater than a few meters as well (S C. Moharir et al., 2020) strengthening evidence of airborne transmission of the SARS-CoV-2. <https://www.medrxiv.org/content/10.1101/2020.12.30.20248890v1>)

Based on these studies and recognizing the need for effective solutions of viral disinfection the challenge was to develop an effective fail-proof retro-fit device with high intensities to handle fast airflows to be fitted with minimal intervention in air-ducts of existing HVAC systems that are widely used in indoors in industrial and commercial environment. CSIR-CSIO has developed an UV-C air duct disinfection system. The disinfection system can be used in auditoriums, large conference rooms, classrooms, malls etc. which will provide a relatively safer environment for indoor activities in the current pandemic. The technology has been developed according to the requirements for deactivation of SARS COV-2 virus contained in an aerosol with necessary ventilation measures, necessary safety and user guidelines and tested Bio-safety standards etc. UV-C deactivates over 99 % of viruses, bacteria, fungus and other bio - aerosols etc. with appropriate dosages using 254nm UV light. Use of UV-C may also help in ameliorating the fungal infections being witnessed during the current wave of the pandemic.

The CSIR-CSIO developed product is tested for more than 99 % disinfection and could be used as a retrofit solution to Air Handling Units (AHUs) of buildings, transport vehicles and other spin off applications. The UV-C is energy efficient system, improves airflow through coils, enhances indoor air quality, requires less maintenance, easy to retrofit with any existing system having AHU ducts, and has low initial setup cost. The system comes with commercialized standards and certifications.

CSIR-CSIO has transferred the technology to the following companies:

1. Aarco Engineering Projects Pvt Ltd

2. Flexatherm Expanllow Pvt. Ltd., Vadodara, Gujarat 390010





3. Aeon Creations Pvt Ltd, Mumbai, INDIA.

4. Shreeson Technologies Pvt. Ltd. Nashik, Maharashtra

5. Reiz Electrocontrols Pvt. Ltd., Gurugram, Haryana

6. Saras Engineering and Projects Pvt Ltd, Secunderabad

7. Indicare Health Solutions Pvt.Ltd, New Delhi

8. Devintec Electrical Technologies, Jalandhar, Punjab

9. SRIAS Engineering Pvt Ltd., Hyderabad, Telangana

10. Ozone Research & Application (I) Pvt. Ltd.,Nagpur

11. Elite Air Techniques Pvt. Ltd. Bahadurgarh, Haryana

12. Airific Systems Pvt. Ltd., Noida

13. Quality Needs Automotives Pvt. Ltd. Bhiwadi, Distt. Alwar Rajasthan.

14. TICEON-HSE LLP, Chingavanam PO,Kottayam, Kerala

15. Alpha Linear, Peenya Industrial Estate, Bangalore

16. Koyna Engineers, Nasik

17. Ultrafresh Marketing Pvt. Ltd.,Mumbai

18. Cenaura Technologies Pvt Ltd, Hyderabad

19. Ideamines Management Consultants Pvt. Ltd. Gautam Budh Nagar, Uttar Pradesh

20. M/s Penguins India, , Rourkela, Sundargarh, Odisha,

21. Softrays Power Solutions, Thiruvananthapuram, Kerala

22. KIRIT Engineering, Jalgaon Maharashtra

23. Chola Geoenergy Private Limited Thanjavur, Tamilnadu,





24. BDS Décor & Prefab Pvt Ltd, Chandigarh

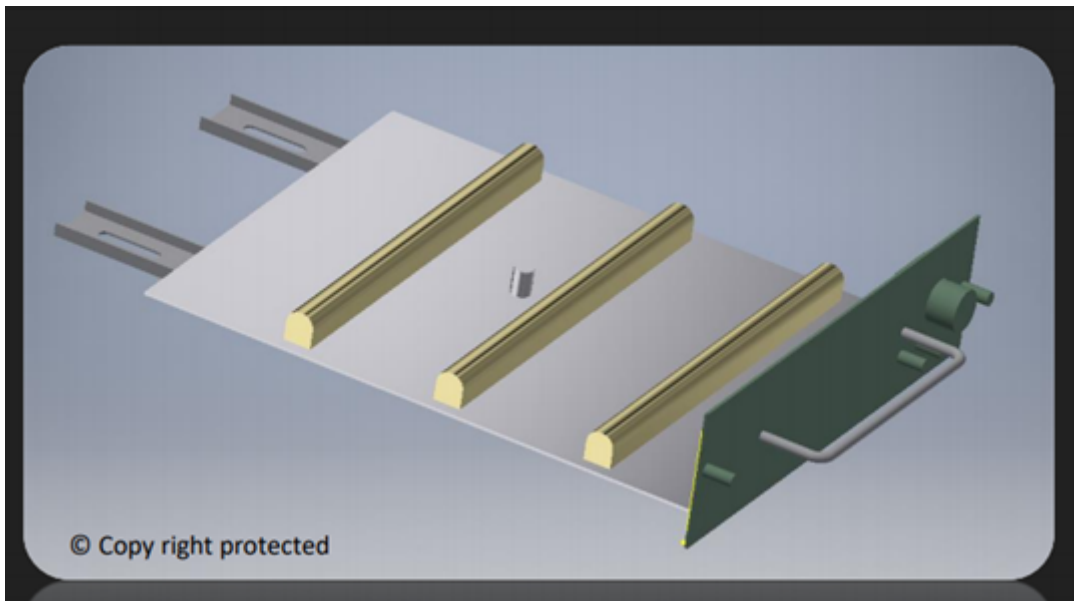
25. Laddha Enterprises Akola| Nagpur

26. Sukrut UV Systems Pvt. Ltd. Pune

27. ABS AIR Tech Pvt. Ltd., Gurgaon, Haryana

28. Unisem Electronics Pvt Ltd, Bengaluru

Prof. S Anantha Ramakrishna, Director CSIR-CSIO, added that this technology developed by the Fabronics division lead by Dr. Harry Gargis available now for deployment with wide availability throughout the country via these companies. Further UV based sanitization products are being developed by Dr. Garg's group for other situations. Installation of ultra-violet light-based solutions may boost people's confidence and facilitate return to work places, public transport and educational institutions as and when appropriate guidelines for relaxation of lockdown/curfews are issued.



UV-C Air Duct Disinfection System

SS/RP/ (CSIR)

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