

SAVING LIVES: INDIA'S TECHNICAL TEXTILE REVOLUTION PAVED WAY FOR COVID-19 RESPONSE

As COVID-19 surged through the U.S. last spring and summer, the country found itself facing an alarming shortage of the personal protective equipment (PPE) frontline health care workers desperately needed to battle the pandemic. On the other side of the globe, India was embroiled in the same struggle, except for one key thing. Until mid-2020, the U.S. relied on China to produce most of the PPE it used. In contrast, India has been self-reliant – it was able to produce its own PPE because of its widespread support for and adoption of the technical textiles industry. Technical textiles such as nonwoven fabrics are important components of face masks, medical gowns and PPE. It wasn't always this way, but the work of one Texas Tech University professor over the last two-plus decades has played a vital role in preparing India for the very fight it's in now.

After completing his doctorate in materials, textiles, and fiber science in 1998, Seshadri Ramkumar joined Texas Tech. In 1999, with a major investment from the U.S. Department of Defense, he began researching nonwoven materials for defensive applications, such as chemical and environmental decontamination. The Indian government had begun its own work in the nonwovens sector, but it was nascent. To help the field grow, Ramkumar – now a professor of advanced materials at Texas Tech's Institute of Environmental and Human Health (TIEHH)– has partnered with the Indian government and technical textiles organizations around the world to host conferences in India since the early 2000s. The "International Conferences on Advances in Fibrous Materials", Nonwoven and Technical Textiles have been co-sponsored by notable industry groups including the American Association of Textile Chemists and Colorists (AATCC), the Association of the Nonwoven Fabrics Industry (INDA), and the Industrial Fabrics Association International (IFAI).

Professor A. Venkatachalam, former department chair at PSG College of Technology and former dean of textile technology at the Bannari Amman Institute of Technology, explains that the conferences and collaborations Dr. Ramkumar initiated across India have given the country significant expertise in nonwovens – and that has well positioned the country to deal with the pandemic.