INDUS DICTUM

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Prez Kovind to present young women scientists award for excellence in social tech on Feb 28

Pune: President Ram Nath Kovind will confer the National Award for Young Woman Showing Excellence Through Application of Technology for Societal Benefits on women scientists for their research achievements and for application of technology for the societal benefits at the National Science Day (NSD) function at Vigyan Bhawan on 28 February.

The National Award for Young Woman Showing Excellence Through Application of Technology for Societal Benefits will be given to Dr Shweta Rawat, DRDO DIPAS, Delhi & Dr Shalini Gupta, IIT Delhi.

Rawat from Defence Institute of Physiology and Allied Sciences (DIPAS), DRDO, Timarpur, Delhi and her team developed a female-specific full-body protector (Prabala) to safeguard the Female troops deployed in riot control actions for the first time. This gear has been developed in collaboration with the Rapid Action Force using the ergonomic design principle based on anthropometric dimensions specific for female troops. The full-body protector has unique properties of anti-stab, anti-puncture, flame retardant and acid resistance. It is designed to assure greater comfort and flexibility to the women forces while deployed in law and order maintenance duties.

Gupta from the Department of Chemical Engineering, Indian Institute of Technology (IIT), Delhi, has successfully led the development of a technology SeptifloTM, which offers fast and affordable assay for point-of-care diagnosis and treatment of bacterial septicaemia. Bacterial septicaemia is one of the biggest in-hospital killers worldwide. This has led to the incubation of the start-up, Nano DX Healthcare Pvt Ltd. She is pursuing unconventional approaches to design novel bio-systems for medical diagnosis, drug delivery and biomaterials fabrication on a chip. A prototype diagnostic kit, using naturally amplified pathogen-derived endotoxins for early bedside diagnosis of bacteremia has been developed, which is currently undergoing clinical trial. In drug delivery systems, cancer and bacterial therapies have been combined into a single delivery platform in order to co-eliminate cancer and bacterial infections residing inside cancer.

The Department of Science & Technology (DST) has been celebrating 28 February as National Science Day (NSD) each year. It is the day Raman Effect, a landmark in scientific discoveries, was announced by Dr CV Raman. The celebration consists of lectures, demonstrations, exhibitions, quiz programmes, awards and other activities for students and the masses. This year, President Kovind will be awarding science communicators and women scientists on the occasion.

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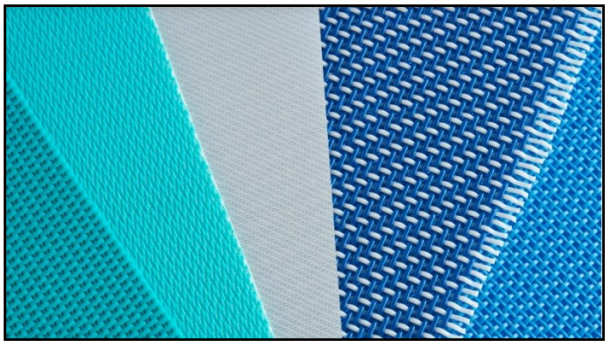
Govt OKs Technical Textiles Mission; CSIR, DRDO, IITs to research

New Delhi: The Cabinet Committee on Economic Affairs, chaired by the Prime Minister Narendra Modi, has given its approval to set up a National Technical Textiles Mission with a total outlay of Rs 1,480 crore, with a view to positioning the country as a global leader in technical textiles. The Mission would have a four year implementation period from FY 2020-21 to 2023-24.



Technical textiles are a futuristic segment of textiles, which are used for various applications ranging from agriculture, roads, railway tracks, sportswear, health on one end to bulletproof jacket, fireproof jackets, high altitude combat gear and space applications on the other end.

The Mission will have four components: Component -l (Research, Innovation and Development), Component -II (Promotion and Market Development), Component – III (Export Promotion) and Component- IV (Education, Training, Skill Development).

Research, Innovation and Development, with an outlay of Rs 1,000 Crore, will promote both fundamental research at fibre level aiming at path-breaking technological products in carbon fibre, aramid fibre, nylon fibre, and composites, and application-based research in geo-textiles, agro-textiles, medical textiles, mobile textiles and sports textiles and development of biodegradable technical textiles.

The fundamental research activities will be based on 'pooled resource' method and will be conducted in various Centre for Scientific & Industrial Research (CSIR) laboratories, Indian Institute of Technology (IIT) and other scientific/industrial/academic laboratories of repute. Application-based research will be conducted in CSIR, IIT, Research Design & Standards Organisation (RDSO) of Indian Railways, Indian Council of Agricultural Research (ICAR), Defence Research & Development Organisation (DRDO), National Aeronautical Laboratory (NAL), Indian Road Research Institute (IRRI) and other such reputed laboratories.

Indian Technical Textiles segment is estimated at $16 billion which is approximately 6% of the $250 billion global technical textiles market. The penetration level of technical textiles is low in India varying between 5-10% against the level of 30-70% in developed countries. The Mission will aim at an average growth rate of 15-20% per annum taking the level of domestic market size to $40-50 billion by the year 2024, through market development, market promotion, international technical collaborations, investment promotions and 'Make in India' initiatives.

The third component aims at export promotion of technical textiles enhancing from the current annual value of approximately Rs 14,000 crore to Rs 20,000 crore by 2021-22 and ensuring 10% average growth in exports per year up to 2023-24. An Export Promotion Council for Technical Textiles will be set up for effective coordination and promotion activities in the segment.

Education, skill development and adequacy of human resources in the country is not adequate to meet the technologically challenging and fast-growing technical textiles segment. The Mission will promote technical education at higher engineering and technology levels related to technical textiles and its application areas covering engineering, medical, agriculture, aquaculture and dairy segments.

Skill development will be promoted and an adequate pool of highly skilled manpower resources will be created for meeting the need of relatively sophisticated technical textiles manufacturing units.

The Mission will focus on the usage of technical textiles in various flagship missions and programmes of the country including strategic sectors. The use of technical textiles in agriculture, aquaculture, dairy, poultry, Jal Jivan Mission, Swachch Bharat Mission, and Ayushman Bharat will bring an overall improvement in cost economy, water and soil conservation, better agricultural productivity and higher income to farmers per acre of landholding in addition to promotion of manufacturing and exports activities in India.

The use of geotextiles in highways, railways and ports will result in robust infrastructure, reduced maintenance cost and higher life cycle of the infrastructure assets. Promotion of innovation amongst young engineering /technology/ science standards and graduates will be taken up by the Mission along with the creation of innovation and incubation centres and the promotion of start-ups and ventures. The research output will be reposited with a 'trust' with the Government for easy and assessable proliferation of the knowledge thus gained through research innovation and development activities.

A sub-component of the research will focus on the development of biodegradable technical textiles materials, particularly for agro-textiles, geo-texti!es and medical textiles. It will also develop suitable equipment for environmentally sustainable disposal of used technical textiles, with emphasis on safe disposal of medical and hygiene wastes.

There is another important sub-component in the research activity aiming at the development of indigenous machinery and process equipment for technical textiles, in order to promote 'Make In India' and enable competitiveness of the industry by way of reduced capital costs.

A Mission Directorate in the Ministry of Textiles headed by an eminent expert in the related field will be made operational. The Mission Directorate will not have any permanent employment and there will be no creation of building infrastructure for the Mission purpose. The Mission will move into the sunset phase after four years period.

Technical textiles are textiles materials and products manufactured primarily for technical performance and functional properties rather than aesthetic characteristics. Technical Textiles products are divided into 12 broad categories (agrotech, buildtech, clothtech, geotech, hometech, indutech, mobiltech, meditech, protech, sportstech, oekotech, packtech) depending upon their application areas.

India shares nearly 6% of world market size of $250 billion. However, the annual average growth of the segment is 12%, as compared to 4% world average growth. The penetration level of technical textiles is low in India at 5-10%, against 30-70% in advanced countries. The Mission aims at improving the penetration level of technical textiles in the country.

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