

CONFERENCE AND EXHIBITION

"OPPORTUNITIES IN HIGH GROWTH SEGMENTS OF TECHNICAL TEXTILES"

12th July 2019 | Silver Oak Room, India Habitat Center (IHC), New Delhi

The Indian Technical Textile Association (ITTA) jointly with North India Section of the Textile Institute (NISTI) organized the Conference and Exhibition On “*Opportunities in High Growth Segments of Technical Textiles*” on 12th July, 2019 at Silver Oak Room, India Habitat Center (IHC), New Delhi. The event was organized to enrich knowledge about the latest global innovations on new technology & product development in high potential segments of Technical Textile i.e. Medical Textiles (Meditech), Protective Textiles (Protech), Automotive Textiles (Mobiltech) and Structural Composites.

Welcome address was given by Dr. Vinod Shanbhag, Chairman NISTI. Dr. Sundararaman K.S., Chairman, ITTA delivered the Special address, saying that there are tremendous potential of marking innovative technical textile products and market it appropriately in domestic and export market. The Conference was inaugurated by the Chief Guest, Dr. Sailen Kumar Chaudhuri, Vice-Chairman, The Textile Institute, Manchester, UK. He said that the technical textile sector has a very high growth potential in India as compared to the conventional textiles. Since these products are used in very critical applications, industry should be very careful in adhering the product specifications. He also said that the subjects chosen in this conference are very interesting and relevant to the current technical textile scenario.

Eminent Speakers were from various Govt. R&D organizations, COEs & Technical textile Industry who shared their rich experience and latest trends & information on the supply chain management, marketing challenges, innovative technology and investment opportunities with major focus on the Meditech, Protech, Mobiltech and Structural Composites.

STRUCTURAL COMPOSITES

The First Technical Session on Structural Composites was chaired by Prof. B. K. Behera, IIT Delhi. This session witnessed the excellent presentations by the speakers, namely, Mr. Ravi Sriraman, Principal Application Development Scientist-Aerospace and Composites, E.I. DuPont India and Dr. Dhaval Patel, Director, Nikol Advance Materials.

“Raw Materials for Structural Composites” was presented by Mr. Ravi Sriraman. Mr. Ravi highlighted that a material composed of two or more distinct phases (matrix phase and dispersed or reinforcing phase) that have bulk properties significantly different from those of the constituents is defined as a composite material. Composite materials can be tailored (designed) according to the desired performance of the structure. Hence, the raw material becomes very important for any structural composites. In this talk we present raw materials used as reinforcements (Kevlar®, Nomex® fibers and fabrics) and Nomex® paper used for making the honeycomb structures that forms the core of sandwich composites. Kevlar® based composites provide light weight, tough structures whereas Nomex® based composites provide lighter weight, high temperature resistance composites. These composites find wider application in the area of aerospace, railway, marine, automotive, civil engineering, and all the others where specific mechanical properties related to weight are important and needs to perform at higher temperatures.

Dr. Dhaval Patel presented the topic on *“Product Development Potential in Composites (Growth Rate & Market Penetration)”*. He spoke about the definition of composites, types of reinforcements and different advanced applications of composites such as aerospace, naval, military, automotive, railways, energy/wind turbine, sports goods, industrial application and civil construction. Properties of composites - High Stiffness-to-Density Ratio, Non-conductive and conductive, Low Thermal Expansion, etc. and its uniqueness like high weight-to-strength Ratio and Anisotropic Properties: Ability to achieve desired properties in desired directions. He said that Indian composite industry will grow from 3.5 lacs metric ton production to 60 lacs metric ton in next two years. Pipe and tank, transportation, wind energy, construction and defence are the major market segments of composites in India. He also highlighted the opportunities for India i.e. to increase the length of pipeline network across the country, electric vehicles to combat carbon emission, indigenisation of parts and assemblies by defence organisations like

DRDO, HAL, ADA, etc., modernisation and upgradation of Indian railways and wind turbine installations to achieve 60 GW power generation by 2022 from 32 GW currently.

PROTECTIVE TEXTILES

Prof. V K Kothari, Ex-IIT Delhi chaired the Second Technical Session on Protective Textiles and three papers were presented, key points are described below-

Mr. Narendra Kajale, Vice President-Technology & Innovations, Texport Syndicate presented the “*Latest Trends in Protective Work wear*”. He said that as the Economy & Industries are growing, so does Hazards such as Fire, Electric Arc, Health, Molten Metal, Chemical, Biological, Accident and Cut. USA is the largest consumer of PPE having highest levels of standards, legislation & compliance with moderate industry growth. India has limited standards, lenient legislation, Inadequate & voluntary compliance. Approx. 5 crores organized working population & same no. in unorganized sector and they are exposed to various hazards. Newer hazards like Radiation, electric arc, chemical exposure, biological exposure, poor air quality, poor water quality etc. posing new challenge to human life. These factors demand newer protections for these threats individually or in combination. Protective wear trends beyond fire protection are electric arc garments, liquid chemical splash suit, gas chemical protection suit, EMF shielding suit, cement workwear, high visibility suit, civil ballistic vest, extreme cold climate suit, etc.

Dr. M. S. Parmar, Deputy Director, NITRA (COE-PROTECH) talked on the topic “*Innovation Opportunities on Personal Protection Equipment (PPE)*” and innovative products developed by NITRA. Also the advance testing facilities set-up in NITRA to evaluate Protective textile products.

Mr. Kunwar Venkateshwar Singh spoke about the “*Quality Assurance in Personal Protective Equipment*”. He highlighted that Global Personal Protective Equipment (PPE) market will grow steadily at a CAGR of almost 8% by 2023 and Asia-Pacific is anticipated to become the fastest growing market in terms of CAGR over the forecast period. Construction is projected to be the fastest-growing end-use industry segment, due to the increasing consumer spending and new construction projects in developing countries such as India, China, and Brazil. PPE are divided

into 3 categories - PPE Category I (Low Risk): clothing that protects against rain & gloves for gardening work, PPE Category II: high-visibility warning clothing & safety gloves that protect against mechanical risks and PPE Category III (High Risk): protective clothing & protective gloves for fire fighters. Indian PPE markets contain products such as hand protection, foot protection, respiratory protection, face protection, fall protection, etc. He emphasized that for quality assurance of Protective Clothing, it should have testing, certification, processing and evaluation. They confirm the safety and conformity of your product and which has a high level of international acceptance and reduce your liability risk and the probability of complaints due to documented tests and standards.

AUTOMOTIVE TEXTILES

The Third Technical Session on Automotive Textiles was chaired by Prof. Kushal Sen, IIT Delhi. There were three presentations on various topics as discussed below-

Mr. Ravishankar Gopal, Chief Consultant, K's Technical & Management Consultants presented on "*Future trends on use of different technical textiles with their functions in designing modern vehicles*". He mentioned the automotive products wherein textile materials are used such as carpets, covering, composites, rubber reinforcements, tyres, seat belts, airbags, belts and hoses. Automotive Reinforcements mainly used are Nylon, Polyester, Steel, Rayon & Kevlar. He explained the future trends in reinforcement of Tyres are more eco-friendly reinforcement like Rayon, recyclability of reinforcement and matrix material will be mandatory, change in Tyre design to reduce dependence on air for cushioning and reduce tyre weight and rolling resistance for Electric Vehicles. Two concepts are used for Textile Trims in Textiles are Happy Attitude- To allow consumers to change elements of the Interior Décor and Light Attitude- reducing the weight of vehicles. He also highlighted the requirements of different products such as automotive seats & seat covers, hoses, composite reinforcements, electric vehicle- two wheelers, etc.

"Future Trends and Challenges in Nonwoven Automotive Textiles" was presented by Mr. Aswan Kapoor, MD, Uniproducts. He talked about the Use of Nonwoven Textiles in Automobiles - Headliner Fabric, Filters and NVH Components used in Engine Compartments, Trunk Trims and in Cabin. He explained the future trends of nonwoven products in different parts of vehicle i.e. Insulator Assy Dash Panel, Engine Room Absorber Parts, Floor Carpet, Parcel Shelf, Fender

Rear Lining, Insulation Engine Under Cover, V LAP Felt and Light GSM Fabric having excellent NVH Property & is light in weight. He also spoke about the notified automotive regulations like BS VI – All Models, RDE data collection along with BSVI type approval, BSVI In service conformity & Ped. Protection All Models and proposed regulations such as Braking as per IS 15986:2015/ AIS 151:2018 – New models, Brake Assist system (if fitted) – AIS 152:2018 – New models, Electronic stability control (if fitted) – AIS 133:2016 – All Models, etc.

Mr. Shantanu Aggarwal, Executive Director, BMD- LNJ Bhilwara Group presented the topic on *“Trends in Automotive Upholstery Textiles”*. He said that in 2017-18, the Indian Passenger Car Market have Domestic Vehicles sales - 3.46 million units, Export Vehicles sales- 0.75 million units, FDI in Automotive sector- \$2.42 billion and Global Automotive Production rankings- 4th Rank. He pointed out some important key trends i.e. Luxury cars growth, Growth in SUV's, Vehicles with automatic transmission, Focus on fuel economy, Destination for export, Globalization and Hybrid and electronic vehicles. He also emphasized on some of the innovative products with applications such as PVC laminated – Door trim, Coating/Padding, High Stretch Fabric- Yarn and process variation, High Stretch Fabric- Foam change, Neoprene Look-Alike- High density circular knit, TENCEL- Natural Raw Material (Eucalyptus Wood), No Smell, No Stain Fabric- Hydrolysis resistant with WR treatment, Recycled 100% PET and Anti Slip Fabric, etc.

MEDICAL TEXTILES

Mr. Anup Rakshit, Executive Director, ITTA chaired the Fourth Technical Session on Medical Textiles. The following presentations were made during this session.

“Disposable Gowns & Drapes- Growth driver in Medical textile” was presented by Mr. Parveen Gulati, Director, SHI Mediwear. He emphasized about the importance of Disposable Gowns & Drapes in the growth of Medical textile. There are many sources of infection like primary i.e. personal, other patients & environment and secondary i.e. patient himself. He highlighted the solution for saving lives by Single Use Garments which have advantages such as Comfortable, Fluid repellent, Viral/ Bacterial Barrier and Breathable. The fabric used eliminates contamination, offers barrier and ensures protection. He also mentioned some of the products of medical textile such as Breathable Viral Barrier (BVB), Ahlstrom TenderGuard™ (high

performance surgical fabric), Ahlstrom TrustShield™ (surgical drapes) and Ahlstrom Reliance Tandem (sterile barrier systems).

Mr. Samir Gupta & Ms. Ritika Gupta of Business Co-ordination House (BCH) spoke about the *“The Indian Absorbent Hygiene Products Market -Finally Delivering on its Promises”*. Ms. Ritika spoke on the disposable hygiene market in India which has seen robust growth since 2010, especially in the sanitary napkins and baby diapers category and is now growing in the categories of adult diapers, under pads and wipes too. The diverse requirement of the Indian population which stands at around 1.3billion people is aggressively consuming the disposable hygiene products and India, will see exponential growth in the coming decades and fast catch up with Chinese numbers. The feminine hygiene sector catering to products of necessity has 40% penetration levels as of today and in all other categories the market is much under penetrated. Currently the market is dominated by' multinationals in the baby diaper and the feminine hygiene category to the extent of above 90% and the adult diaper category is dominated by imports and Indian private label. Considering the low penetration levels many private and international players are looking at entering the market. Even though there is lack of awareness and many other disadvantages to resist the growth of the disposable hygiene industry, there seems to be a huge demand for such products. Retailers, Product convertors or raw material producers are all interested and want to be a part of this growing industry in India. The government is making a great push necessary to create awareness and support this industry which has really added a lot of meaning to awareness creation.

Mr. Basudev Basu from Ginni Filaments presented the topic on *“Usage of Spunlace Nonwoven in Medical Textile Products”*. He spoke on the importance of Medical Textiles and said that the disposable clothes are easy to use, hygienic and cost effective, by eliminating laundering process wherein cost comes to either equal or higher by 15% to 20% that of linen, in case of disposables. So, Disposable Nonwovens with required barrier properties are the requirement to reduce HAI. He pointed out that Medical Disposable Nonwoven Sales market is projected to grow at a CAGR of 5.1% with tonnage consumption at a CAGR of 6.2%. Surgical Drapes & Gowns is the largest medical nonwovens globally. Incontinence products are the 2nd largest and the fastest growing & Wound Care is the next fastest area.He emphasized that Spunlace Fabric is the best suitable application in Meditech products - a) its produced under controlled environment & strict quality

checks of Hygiene and GMP standards, b) Testing for mould & bacteria, c) better absorption characteristics and wicking properties, d) Functional finishes like antimicrobial, liquid barrier properties but breathable with softer feel, e) 95% usage of Spunlace nonwoven are meant for Hygiene related applications and f) Compliance with BIS standards and International Standards.

PANEL DISCUSSION

The theme of Panel discussion was on “*Scenario of Technical Textiles in India*”. Dr. V. Shanbhag, Chairman, NISTI was the Moderator and the experts were Mr. Sanjay Raut, President (Technical and New Businesses), Garware Technical Fibres, Dr. Arindam Basu, Director General, NITRA, Dr. Mohan Varkey, Head of QC, Datt Mediproducs Ltd., Dr. Kuldip Sharma, CEO & Director, Megatech Overseas (I) Ltd. and Dr. Swapna Mishra, Director, Textile Skills Council were the panelists.

The panel discussion was a platform for the entities constituting a part of the larger eco-system of the technical textiles industry to present its views. Mr. Raut emphasized that the world’s market place for technical textiles lay at India’s feet to capture and narrated instances from his own company’s experiences on how marketing and branding combined with perseverance and long term goals were vital to success in overseas markets. Dr Sharma described the intricacies of technical textiles projects and the pressure on new entrepreneurs to fall back on expert advice and guidance through project development and commercialization. This naturally led to Dr Basu profiling the totality of the R&D system in India focused on technical textiles and, in particular, achievements of NITRA in the field of protective textiles in wide range of applications, topped by defence and security requirements. He drew attention to the prevailing syndrome of rarity for Indian industry to invest in R&D, which is essential for the growth of technical textile industry. Dr Jana threw a spotlight on the inclusion of this subject matter in the learning content devised by NIFT in its recent curriculum revision, noting particularly the evolving feature of wearable technical textiles amid their strong presence in active wear and other sporting applications. As the moderator highlighted the skill gaps that the industry complained about, Dr Mishra dwelt on efforts of the Textile Skills Council to survey the gaps and to work towards a diploma-level curriculum for human resource development specifically focused on the technical textiles industry.

The conference received over whelming response and attended by more than 170 delegates from the technical textile Industry, potential investors, number of graduate & post-graduate students and teachers from various textile and management universities and colleges.

FEEDBACK FROM THE PARTICIPANTS

The feedback from the participants was very encouraging and most of them mentioned that their experience was overwhelming and the participation in the Conference was very useful. The topics covered, speakers present and quality of discussion were very relevant in the context of encouraging the innovations in the field of Meditech, Protech, Mobiltech & Structural Composites.