MINISTER’S MESSAGE

Technical Textiles are value-added textiles used for their multifunctional properties. An emerging area of investment for India, technical textiles are critical to improving the quality of life and standard of living.

Government of India has implemented several initiatives such as Scheme for Growth and Development of Technical Textiles (SGDTT) and Technology Mission on Technical Textiles (TMTT). This publication is an additional effort in encouraging the technical textile industry in India.

The Indian technical textile sector is expected to grow at an annual rate of 20% till 2016-17, and Ministry is committed to ensuring that stakeholders across the technical textile value chain are able to harness these opportunities so that the sector may exceed these expectations. Showcasing current trends in the global sector, as well as the latest developments, events and programs, this newsletter should enable greater integration in the national industry.

I urge all stakeholders from the Indian technical textile fraternity to take maximum advantage of this newsletter and Government’s other initiatives for facilitating growth in this sector.

Ministry of Textiles is actively working for the development of the Technical Textiles sector in India. In line with this objective, the Government has launched Technology Mission on Technical Textiles (TMTT) wherein eight Centres of Excellence (CoE) have been established and up graded as one-stop shops for their respective segments.

Further, the Ministry is also carrying out promotional activities to increase the awareness of technical textiles amongst the user-groups. To promote the market, Buyer-Seller meets are being organized and Indian Technical Textile manufacturers are being encouraged to export their products globally. To reinforce the utility of Agrotextiles, Ministry of Textiles has adopted the demonstration-model in North East states wherein the farmers will be provided with Agrotextile kits along with appropriate training for these products.

The purpose of this newsletter is to make the domestic technical textile industry self-aware of its potential, and to encourage stakeholders across the value chain to coalesce, harnessing this potential and creating opportunities that will drive mutual benefit and growth. We aim to make Indian industry globally-competitive, and are prepared to provide the necessary impetus.

FOREWORD

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### Composites
#### Breaking the three minute cycle

The French company, RocTool has demonstrated how it is now possible to develop an ultra-thin carbon fibre composite part in just two minutes and 30 seconds with its 3iTech technology. It can produce carbon composite parts with no surface defects irrespective of their complexity, in cycle times never before achieved. Many electronic parts companies worldwide have already opted for the technology. RocTool has an international patent portfolio and offers licenses of those patents and know-how to OEM's, manufacturers and resin providers.

### Fibre Technology
#### First self-healing polymer created in Spanish lab

Researchers at the CIDETEC Centre for Electrochemical Technologies in San Sebastian, Spain recently created a polymer that can bind itself back together even after being sliced with a razor blade, without the help of a catalyst. This is the first man-made self-healing polymer to function without a catalyst. The polymer is a type of thermoset elastomer. This is expected to provide polymers with enhanced lifetime and resistance to fatigue. This could eventually lead to self-repairing pipes, bicycle tires and Barbie dolls, among a million other possibilities.

### Meditech
#### Activated carbon cloth helps treat non-healing chronic wounds

A clinical trial using activated carbon cloth in direct contact with the wound with ten patients at the Eastbourne Wound Healing Centre has resulted in all participants experiencing reduction in pain during the first week of using the dressings. Malodour encountered on the first day before the use of Zorflex fell to mild or none by day three. Zorflex® activated carbon cloth adsorbs a large volume of organic or inorganic molecules from various gases and liquids and acts as a high purity filter, a method of separation or as a protective layer.

### Indutech
#### New flax fibre cone for speaker diaphragm

Made of high-quality flax fibres core enclosed by two thin layers of glass fibre, ‘F’ cones are characterised by their natural sound, their richness of reproduction in the midrange register and their tighter bass. Flax is said to combine the three key factors required of the core of a sandwich material for loudspeakers: it has low density, a high tensile modulus of elasticity of up to 60GPa, and excellent internal damping.

### Protech
#### Lightweight ballistic inserts

TenCate Advanced Armour, a leading supplier of a wide range of armour composite materials for ballistic protection, has developed what it claims to be the world's lightest insert for protecting against one of the most common gun threats, the AK47 Mild Steel Core. It is designed to offer unmatched protection and user comfort to soldiers and law enforcement personnel whilst ensuring high tactical mobility.

### Nonwovens
#### Recycled wet-laid for new prints

Teijin Limited, a Japanese chemical and pharmaceutical company, has developed a water-resistant printing substrate made entirely from its Ecopet recycled polyester fibres derived from used PET (polyethylene terephthalate) bottles. This makes it ideal for use in outdoor or wet locations. Potential applications envisaged include hazard maps, triage tags and other outdoor materials, outdoor posters and labels and price tags for fresh or frozen foods.
Despite the downturn in the global textile industry, the technical textiles sector is proving to be an increasingly strong inspirational force for the industry. The market presence of technical textiles is expanding and the field is experiencing growth in functions and applications. Consumption of technical textiles constitutes approximately 25% of the total volume consumption of all textiles in industrialized countries. Global demand is expected to be especially high for Geotextiles, Industrial textiles and Building textiles.

India thus presents significant opportunities for harnessing the trends of growth in the global technical industry. Higher investments will especially drive the development of the sector in India. Thus, monitoring the investments taking place in the field of Technical Textiles worldwide to understand the investment patterns across the globe is imperative. Provided below is a snapshot of the key investment trends during the last two years, specific to primary investment segments and the mode of investments worldwide.

North America has witnessed the highest number of investments in Technical Textiles during the period July to September 2013. Moreover, new investments in Technical Textiles are dominated by the Composites, Nonwovens and Hometech segments of Technical Textiles. Further, most technical textile companies are seeking to enhance their product lines and services. In this regard, many companies are reinvesting in expanding their business areas (product-wise & region-wise) or acquiring those companies that provide the right synergies.

**BUSINESS & INVESTMENT UPDATES**

**Mobiltech**

*Pirelli confirm Kevlar switch*

The change has been made in an attempt to make the tyres more resistant to punctures and cuts. Kevlar is a type of reinforced, flexible fibre that is particularly resistant to punctures, while the operating temperature of the tyre is reduced by about 10°C, which could affect competitiveness between cars.

**Oekotech**

*Advanced textiles harvest seaweed for biomaterials*

The AT-SEA project aims to make mass cultivation of seaweeds in inshore locations in Europe feasible by creating growth substrates that can endure the tests of a constantly wet, salty, moving, sometimes raging sea on which to grow the seaweed. The textiles being trialled are a mix of woven, nonwoven and 3D layered fabrics based on advanced fibrous and fibre-composite materials. The textiles may also be coated or modified to encourage the growth of a particular species.

**Agrotech**

*Ökolys - Biodegradable and compostable woven landscape fabric*

Beaulieu Technical Textiles, an established leader and driving force in the market of technical textiles, has developed Ökolys an innovation in environmentally friendly weed control within landscape gardening, forestry and agriculture. It ensures important weed control for young plants, for the crucial first three years. End-of-life of Ökolys is also not an issue: after its period of use, it biodegrades and returns into the organic chain by becoming food for the plant, closing the carbon cycle.
### FAST FACTS FROM THE LAST 2 YEARS

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Fact</th>
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<tbody>
<tr>
<td>45%</td>
<td>Of global Investments in Technical Textiles is in North America.</td>
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<tr>
<td>17.3%</td>
<td>Investments in Meditech segment amongst all other segments of Technical Textiles.</td>
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<tr>
<td>59.8%</td>
<td>Of all investments took place via Expansion Mode.</td>
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### MAJOR INVESTMENTS IN TECHNICAL TEXTILES

#### Jajoo and Investkonsult set up JV to make hygiene products

Sweden-based Investkonsult and India-based Jajoo Surgicals Pvt. Ltd. have set up a joint venture to manufacture hygiene products at Dewas near Indore in India. The JV will produce underpads, booster pads and maternity pads and is slated to begin commercial production by mid-December 2013. Investkonsult has brought in two used European lines; one line to manufacture traditional underpads and one line for production of insert and booster pads. The Jajoo family will own 67-70% and the Berlin family of Investkonsult will own 30-33% of the shares through Investkonsult Sweden.

#### Building business in India

Toyota Boshoku Relan India is a new joint sales venture between automotive interiors companies Toyota Boshoku and the Relan Group. The venture will capitalise on the strengths of Toyota Boshoku’s global R&D hubs & high quality manufacturing and Relan Group’s competencies in sales & sourcing. Toyota Boshoku’s technical operations will support sales activities to realize swift and accurate assessment of customers and their needs in the Indian market. The new joint venture will be established in Pune, Maharashtra with capital of approximately $1.4 million.

#### PGI and Fiberweb deal completed

With the completion of its acquisition of Fiberweb, PGI is now one of the world’s largest manufacturer of nonwovens. The acquisition brings both companies into new market segments and considerably expands PGI’s global footprint – it now operates in 13 countries with an employee base of approximately 4,000 people – and with an unmatched portfolio of technologies and products.

#### SAP expansion in Europe and Asia

Sumitomo Seika has inaugurated its new Aqua Keep superabsorbent polymer (SAP) plant at the Carling site in Moselle, France, and also announced plans to add 40,000 tons additional capacity at its main plant in Himeji, Hyogo, Japan. The Carling expansion will address the increasing demand for super-absorbents for nonwoven-based hygiene disposables in Europe to be met, by bringing overall capacity at the site to an annual 47,000 tons.

#### Karl Mayer takes control of competitor LIBA

On January 1, 2014 Karl Mayer will acquire the majority of the ownership of LIBA Maschinenfabrik GmbH, which will be integrated into the Karl Mayer group. For decades, both Karl Mayer and LIBA have been the leaders in the development, manufacturing and distribution of warp knitting machines and machines for the production of technical textiles, including multiaxial stitchbonding machines for glass fibre and carbon fibre reinforced composites and weft insertion raschel machines for a range of technical applications.

#### NSA Acquires Spentex® From GSL

National Safety Apparel (NSA) — a Cleveland-based manufacturer of protective apparel for industrial safety applications — has acquired the Spentex® brand of flame-resistant (FR) safety apparel from Global Safety Labs (GSL) Inc. — a Tulsa-based manufacturer of fire protection apparel and fire suppression products for the petrochemical, electrical power, molten metal, fire service and military/government industries.
### MAJOR INVESTMENTS IN TECHNICAL TEXTILES

**Domtar to purchase Laboratorios Indas**

Canadian paper and pulp products maker Domtar Corp will buy privately held Spanish diaper maker Laboratorios Indas, as part of its efforts to build its hygiene business and reduce its dependence on unfavorable pulp pricing. Domtar will pay €285 million to private equity firm Portobello and Santander’s Vista Capital to buy Indas. It will also repay most of Indas’ €140 million debt post-acquisition.

**Trelleborg Coated Systems to Expand Rutherfordton Operations**

Italy-based Trelleborg Coated Systems — a supplier of polymer-coated fabrics for industrial applications, and a business division of engineered polymer solutions provider Trelleborg AB, Sweden — is investing $10.6 million over the next four years to expand the Rutherfordton, N.C., operations of its U.S. subsidiary, Trelleborg Coated Systems US Inc. The expansion of the Rutherfordton operations will include the addition of a production line and creation of 76 jobs.

**Fitesa to Expand Simpsonville Facility, Add At Least 32 Jobs**

Fitesa Simpsonville Inc., a Simpsonville, S.C.-based designer and manufacturer of nonwoven fabrics for hygiene, medical, and industrial specialty applications, is investing $50 million to expand its Simpsonville facility and create at least 32 jobs. The company will improve the infrastructure of its 190,000-square-foot plant and add equipment to increase production capacity for its spunmelt nonwoven hygiene fabrics.

**Owens Corning expands glass nonwovens business**

Owens Corning says it plans to establish a new manufacturing operation in North Carolina to expand its glass nonwovens business in North America. The company will invest more than $120 million in the NC Certified Gastonia Technology Park. The new facility is expected to be completed by mid-to-late 2015. It will encompass a state-of-the-art manufacturing line, coating capability, and research and development resources with potential for future expansion.

**Auto parts supplier UGN to open $25 million Midwest plant**

Automotive parts manufacturer, UGN Inc., has narrowed down its next facility to Indiana or Ohio and will break ground no later than the first of the year. The plant is part of a $25 million expansion that will bring 150 new jobs to one of the states. The new plant will meet an increased need for new carpet and underfloor technologies. These products are being made in the U.S. for the first time ever and will be found in 2016 and later Japanese-produced automobiles.

**Korean nonwoven manufacturer looks to expand in U.S.**

A Korea based nonwovens manufacturer that is seeking to open a facility at an undisclosed site in Davidson County, NC, has received approval from county officials for $172,800 in incentives, according to the Lexington Dispatch. The manufacturer, referred to as Project Soft, has several facilities in the U.S. It would invest $12 million in the project and is considering other areas of the Southeast for the facility.

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**Disclaimer:** The identification of the investments is based on the secondary research on internet, magazines, newsletters etc. for the period from January to February, 2013. The outcome of the analysis may not be exhaustive & representative of all events, though we have taken reasonable care to cover all the instances.
The Ministry of Textiles has upgraded existing and established new Centers of Excellence (CoEs) for technical textiles under the Technology Mission on Technical Textiles (TMTT), launched by Ministry of Textiles in 2010. Currently, Ministry of Textiles has established 8 CoEs that are active in the field of Agrotech, Geotech, Indutech, Meditech, Protech, Sportech, Nonwovens and Composites. These CoEs provide the following services to the industry:

- **Technical Consulting**: CoEs provide technical support to the industry by the means of consulting services. An entrepreneur may connect with a CoE and seek techno-economic advice and help pertaining to a segment of Technical Textiles.
- **Incubation**: CoEs provide incubation facilities to the entrepreneurs/companies who may not be able to conduct research and development of a new product/idea owing to lack of availability of machinery for the purpose, the CoEs provide their own infrastructure and help in developing the idea.
- **Research and Development**: R&D is the backbone of the Technical Textile industry. Consequently, the CoEs conduct the prototyping and product development work on a regular basis and help the industry.
- **Testing**: Provision of cost effective and high quality testing facilities is one of the prime motives of the CoEs. The CoEs have been provided with state of the art infrastructure to cater to this need of the industry.
- **Information Resource Centre**: The information resource center in a CoE has a collection of relevant journals and text books and various other information sources for its respective segment of Technical Textiles. This is available for the industry to refer to for better understanding of the concepts and latest developments across the globe.
- **Collaborations and Accreditations**: The CoEs are forming collaborations and accrediting themselves with world’s best organisations so as to improve the know-how of the work force and create an international presence.
- **Training & Seminars/Conferences**: The CoEs provide training and seminars for the industry, so that the workforce of the industry may be trained accordingly and making them instant fit with the latest developments across the globe in the field of Technical Textiles.

The COEs thus play a significant role in enabling Indian industries to realize their potential in addressing demand and scaling attractive opportunities in each of the 12 technical textiles sub-segments. Thus, it would be beneficial for the industry to make the maximum possible use of the facilities at the CoEs.

**COE Achievements under TMTT**

- **138 Incubation Activities**
- **72 Prototypes Developed**
- **30 New Products Developed**
- **51 Standards Developed**
- **115 Technical Consulting Assignments**
- **187 Seminars/Training Programs Organized**
- **4850 People Trained**
About CoE:

NITRA under the aegis of TMTT scheme in the Ministry of Textiles has been awarded the responsibility of being a Centre of Excellence for Protective Textiles. NITRA has established a Protech Laboratory with state-of-the-art testing instruments such as flammability tester, limited oxygen index tester, contact heat tester, washing and dry cleaning cylinder, vertical and horizontal flammability tester, radiant heat transmission tester, vibroscope and vibrodyne, seam fatigue tester, etc. The CoE also has a “Fire Testing Lab” to test textile and allied products for heat, flame and safety-related characteristics as per International and IS standards. NITRA’s infrastructure facilities for quality evaluation includes six NABL accredited QC laboratories capable of analyzing materials as per IS, ASTM, DIN, BS, ISO, JASO, AADTCC, EN and other customized standards. NITRA’s Library & Information Centre has stock of approximately 4000 books including 170 own publications. It also subscribes to 110 national and international journals. The library & information service is available for textile industry professionals and associated individuals. NITRA is also ISO 9001 certified Textile Research Organization. The COE Protech is led by NITRA and in the first phase of COE implementation under SGDTT also saw involvement from IIT-Delhi. NITRA has dedicated physical spaces for COE in various departments within its campus. The CoE (Protech) has also established an exclusive “Heat & Flame testing lab” to test textile and allied products for heat, flame and safety related characteristics as per International and national standards.

Facilities Provided

CoE Protech provides the facilities for the industry which are as follows:

- Product Development
- Prototype Development
- Preparation of standards/Specifications
- Testing
- Training & workshops/seminars/conferences
- International Linkage
- Information Resource Center
- Incubation center
- Technical Consultancy

Industry Speaks:

- **Teijin India Pvt. Ltd.**: NITRA is very good with maintaining commitments. Its staff is very cooperative and NITRA maintains integrity in its services. It has a good reputation and recognition in the national protective technical textile sector.

- **High Performance Textiles Pvt. Ltd.**: Good responsiveness, with low lead times. The company found conferences by NITRA to be very helpful.

- **Veekay Polycats**: NITRA’s testing services are reasonably priced compared to those of other testing laboratories.

- **Aeronav Industrial Safety Appliances**: NITRA is way ahead of other labs in India for testing of Protective Textiles.

Schopper Abrasion Tester  Tumble Piling Tester

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Scheme for Promotion of Use of Agrotextiles in North East Region

Owing to the prominence agricultural activities in North Eastern States of India and to promote the usage of agrotextiles in North East Region, Ministry of Textiles has launched this scheme in 2013. The scheme aims at creating awareness amongst the user group i.e. farmers about the importance of usage of Agrotextiles in farming activities. This shall be done through establishment of demonstration centres, seminars and developing capacities of existing agricultural bodies such as Krishi Vigyan Kendras, farmer union etc. in 8 states of North East Indian region. The second aim of the scheme is the disbursal of agrotextile kits to the user group i.e. farmers. Currently, two states have proposed for the establishment of demonstration centres and CoE Agrotextiles has planned for the publicity activities to be taken up in the next few years for promotion of usage of Agrotextiles.

As per the scheme guidelines, demonstration centres will be set up across the North East states wherein farmers and other stakeholders can obtain information and training on various Agro-textile products and applications. Further, the beneficiary farmers will be provided Agro-textile kits which will contain material, instructions and best practices. The scheme period is for five years with a total fund outlay of Rs. 55 crore.

A few noteworthy observations on agrotextiles are:

- After announcement of the scheme, some agro-textile companies have established their regional offices in Guwahati, Assam.
- Recently, Government of Rajasthan has provided 10 million metres of crop covers to the farmers to help them protect their crops from the extremely cold climatic conditions leading to frost.
Seminar on Indian Textiles and Technical Textiles: Challenges and Strategies for Competitiveness in Southern States

Ministry of Textiles, in association with FICCI, had organized a seminar on the challenges faced by the Indian Textiles and Technical Textiles sectors and discussed various strategies the competitiveness of the sectors, with a specific focus on raising the profile of these sectors in the South Indian states. The event was held on 1st October 2013 in Hyderabad, Andhra Pradesh.

Dr. K Sambasiva Rao, Hon’ble Union Minister of Textiles graced the event and also released the knowledge document ‘Textile Sector Profile - Andhra Pradesh”, prepared in partnership with FICCI, Ernst & Young LLP (India) and Wazir Advisors Pvt Ltd.

Representatives from the Government of India, industry and various textile related associations addressed the participants. It was mentioned that the Indian Textiles and Technical Textiles sector needs to focus on investing in Research & Development in order to develop new and innovative products that will lead to higher margins and better address customer needs. Industry participants requested the government to explore the possibility of reducing and rationalizing duty structures, lowering financing costs, providing special tariff for power costs and formulating standards to assist in enhancing the quality and export-potential of the textiles industry. The event ended with an address by the Hon’ble Union Minister of Textiles where he urged the industry to work together to raise the publicity of the textiles sector.

Technotex 2014 – March 20th to 22nd, 2014

Ministry of Textiles, in association with FICCI, has organized two Technotex events, over the last three years. Technotex 2011 was an initial step in accelerating the growth of and investments in Technical Textiles while Technotex 2013 focused on building international partnerships and integrating India into the global Technical Textiles market.

Technotex 2014 will showcase the progress made by the Indian Technical Textiles sector as well as further enhance our global partnerships. The event will also focus on new developments in R&D, new product and technology launches and perspectives from leaders in this field. The event will consist of two sub events i.e. a conference on various topics on Technical Textiles and a simultaneous exhibition. Over the years, Technotex has seen participation from numerous manufacturers and Technical Textile across the globe, Technotex 2014 will see international participation along with participation from domestic companies. The exhibition shall have 10000 sq mtr of exhibition area with dedicated country and Indian state pavilions.

GET IN TOUCH

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