Azadi Ka Amrit Mahotsav

वस्त्र मंत्रालय
MINISTRY OF TEXTILES
सत्यमेव जयते

FICCI

5TH NATIONAL CONCLAVE ON STANDARDS FOR TECHNICAL TEXTILES

Building Standards for **India@2047**

Table of Content

Introduction

Technical textiles has emerged as a major sunrise sector in Indian textiles industry. This segment of textiles is used for various applications ranging from agriculture, roads, railway tracks, sportswear, health, bullet proof jacket, fireproof jackets, high altitude combat gear and space applications. There is a need to transition to newer, high-tech, more globally sought products and thus, the Government started various initiatives to boost investment and upskill the personnel employed in the sector.

Quality standards are critical for technical textile products, as these products are highly specialized and technical in nature. Recognizing the need for standardisation, the Ministry of Textiles, Government of India, Bureau of India Standards (BIS), and Federation of Indian Chambers of Commerce and Industry (FICCI) jointly organised the 5th edition of the National Conclave on Standards for Technical Textiles, Building Standards for India@2047 on 10th June'2022 at FICCI Federation House in hybrid mode.

The conclave was chaired by Shri U P Singh, Secretary, Ministry of Textiles. It encompassed a wide array of sessions and discussions on standards and regulations covering different areas of technical textiles including ProTech & Specialty Fibres, AgroTech & MediTech, GeoTech & BuildTech, MobilTech, Composites and InduTech.

Over 300 participants attended the conclave including Officials and Representatives from Bureau of Indian Standards (BIS), Indian Army, Indian Navy, Indian Space Research Organisation (ISRO) and various line Ministries and Departments of the Central Government, officials from State Governments, eminent industrialists from India among others.

A considerable progress has been made in development of standards on technical textiles since the first conclave held in 2011. The conclave acts as a catalyst for the formulation of latest standards in line with global requirements and has been an excellent discussion forum for all stakeholders.

"L-R Shri Rajeev Saxena, Joint Secretary, Ministry of Textiles; Shri Rajnikant Sabnavis, Co-Chair FICCI-Textiles Committee; Shri U.P. Singh, Secretary, Ministry of Textiles, Government of India; Lt. Gen. Rajeev Chaudhry, VSM, Director General, Border Roads Organisation; Shri Rajeev Sharma, Deputy Director General (Standardisation), Bureau of Indian Standards; Mr. Chetan Bijesure, Assistant Secretary General, FICCI at 5th National Conclave on Standards for Technical Textiles"

Inaugural Session

Speaking at the Inaugural session of the conclave, **Shri U P Singh, Secretary, Ministry of Textiles** highlighted that the National Technical Textiles Mission (NTTM) and PLI in Textiles act as a catalyst in enhancing the production, demand, market penetration and exports of technical textiles from India. He added that standards provide a facilitating framework for technical textiles' manufacturers in India to conduct business worldwide. Continuous formulation and revision of the standards for each product category and segment will have a positive impact on the consumption of technical textile products in India, he further emphasized.

He also highlighted that development and harmonization of Indian standards for high-end technical textiles with international equivalency is the need of the hour. There is a need to examine the possibility of Quality Control Orders (QCOs) for essential technical textiles from safety, health and environment standpoint.

> **We must put in place the standards needed by the industry and keep revising the existing ones.**
>
> **Shri U.P. Singh**
> **Secretary, Ministry of Textiles**
> **Government of India**

Shri U.P. Singh, Secretary, Ministry of Textiles, Government of India at the Inaugural Session of 5th National Conclave on Standards for Technical Textiles

A collaborative approach between Ministry of Textiles, Bureau of Indian Standards, Research Organizations, Industry and Academia to work together closely in identification of gaps and work towards harmonization of Indian technical textile standards with the global standards is being followed. Government will endeavor to provide all the needed support to promote Indian technical textiles sector across the world, added Shri U P Singh.

Shri Rajeev Sharma, Deputy Director General (Standardization), BIS highlighted that over 500 standards have already been formulated for technical textile products by BIS in India since 2011 and further 40+ standards are being developed in close coordination with Ministry of Textiles, industry and other line Ministries and Departments.

He further added that BIS has undertaken several initiatives to fast-track the formulation and harmonization of standards for technical textiles including formation of Specialized Committee for Technical Textiles, Pre-membership in ISO Technical Committee, Digitization of Standardization Activity, Action-Research Based Approach, Free of Cost Indigenous Standards information and MoUs with Eminent Institutes have been the focused initiatives undertaken by BIS towards building technical textiles standards in India.

During the Keynote address, **Lt. Gen. Shri Rajeev Chaudhry, VSM, Director General, Border Roads Organisation (BRO)** emphasized on the active role of BRO in driving the wide usage of Geo-textiles products including Geogrid, Geocells, Geofabrics and Geodrains across different road construction projects at borders, mountains and rain infested areas of India.

He further added that the BRO has collaborated with industry and academia for development of new material & technology solutions. Thus, standardization of these products play an important role in further increasing the usage, going forward.

In the opening remarks, **Mr. Rajinder Gupta, Chair FICCI-Textiles Committee & Chairman, Trident Ltd.** emphasized on formulation of standards for priority segments like Geo-textiles, Sport-textiles, Medical-textiles and Protective-textiles, among others. Together BIS, manufacturing industry, user industry, research bodies and academia can build safe, clean and self-dependent India. He further iterated the unparallel support of industry in development of standards for making the indigenous technical textiles products more refined, lucrative and safe.

> **Together BIS, manufacturing industry, user industry, research bodies and academia can build safe, clean and self-dependent India.**

Mr. Rajinder Gupta
Chair FICCI-Textiles Committee
& Chairman, Trident Ltd.

Key Discussion Points

- It is imperative to develop and harmonize Indian standards for high-end Technical Textiles with international equivalency.
- Dedicated 500+ standards have been already developed and 40+ standards are under pipeline for the Technical Textiles and application areas thereof.
- Specialized Committee for Technical Textiles, Pre-membership in ISO Technical Committee, Digitization of Standardization Activity, Action-Research Based Approach, Free of Cost Indigenous Standards Information and MoUs with Eminent Institutes have been the focused initiatives undertaken by BIS towards building technical textiles standards in India.
- Fast-tracked approach must be established in development and implementation of standards for safe, clean and Atma-Nirbhar Bharat, especially for Geo-textiles, Sport-textiles, Medical-textiles and Protective-textiles, among others.
- Harmonized standards for Technical Textiles are pivotal for enhancing industries' global competitiveness and growth.
- Need to examine the possibility of Quality Control Orders (QCOs) for essential Technical Textiles from safety, health and environment standpoint.

> **Standardization is one way by which any industry develops competitiveness, hence development of robust standards for Technical Textiles play a significant role.**

Shri Rajnikant Sabnavis
Co-Chair
FICCI-Textiles Committee

Session 1: ProTech and Specialty Fibres

"L-R Col N.K. Singh, MGS Branch, Indian Army; Brig. R. K. Suresh, MGS Branch, Indian Army; Dr. Arindam Basu, Director General, NITRA; Commander Vineet Kumar Arora, Naval Headquarters, Indian Navy; Mr. Mayur Katiyar, Scientist B, BIS at Session 1: ProTech and Specialty Fibres of 5th National Conclave on Standards for Technical Textiles"

Key Discussion Points

- India should stay abreast with current international technologies in the ProTech and Speciality Fibre segments.
- Usage of Technical Textiles in Armed Forces should be encouraged, and there is need of enhancing user experience by adding more safety and protective features.
- Technical partnership with international organizations to be encouraged for improving the specifications in the segment. Also, industry partnerships/joint ventures with international players to be established.
- Indigenization of various protective textile items being procured by Armed Forces, Navy etc. to promote the Make in India philosophy and to reduce the cost of procurement and lead times.
- Countries such as Bangladesh and Sri Lanka are also good in ProTech fabric and footwear.
- Indian industry to work in collaboration as per needs of Armed Forces, Navy, Paramilitary forces for the concept of 'Fit for All' garments and boots, suitable for all weather conditions.
- To develop a robust vendor base and sources of supplies from both organized and unorganized sectors.
- Indian industry to suggest newer fibres or blends to replace the existing specifications/QRs of Armed Forces for better functional protective textiles.
- The supply chain at ProTech is complex, and there aren't enough effective quality controls in place, which leads to discrepancies in processing lead times and supplies in India.
- Standards requirement based on environmental conditions should be aggregated by all armed forces in order to integrate customers based on the common needs.

- The key to ProTech segment and Specialty Fibre growth is defining the scope of Technical Textiles and identifying latest standards.
- IIT Delhi and Indian Army are working in close coordination to standardize the boot and shoe criteria requirement that are common in all military uniforms and services.

> **Specialty fibres, used in a variety of applications are of key importance.**
>
> **Dr. Arindam Basu**
> **Director General, NITRA**

Session 2: MediTech & AgroTech

"L-R Dr. Ravi Kant Sharma, Deputy Drugs Controller (I), CDSCO; Dr. Manoj Kumar, Joint Director- Horticulture, Department of Agriculture, Government of Haryana; Dr. R.K. Singh, Project Coordinator, ICAR-CIPHET; Shri J.K. Gupta, Scientist E & Head Textiles, BIS; Dr. Sanjoy Debnath, Principal Scientist, ICAR-NIRJAFT; Mr. Dharmbeer, Scientist C, BIS; Dr. Sudipta Saha, Prof. Dept. of Surgery, LHMS; Dr. Nitin Hayaran, Prof. Dept. of Anesthesia, LHMS, DGHS at Session 2: MediTech & AgroTech of 5th National Conclave on Standards for Technical Textiles. The session was moderated by Mr. S. Sivakumar HoD, SITRA & Co-moderated by Dr. Manisha Mathur, Joint Director, SASMIRA, virtually"

Key Discussion Points

- Volume and growth driver in MediTech is the non-implantable segment, which includes nonwovens, surgicals, and healthcare/hygiene products. Many implantable and non-implantable MediTech products still require the formulation of standards.
- The Indian MediTech industry's growth is being hampered by some of the existing complicated standards, or lack of standards for several key products and absence of user knowledge. Furthermore, the standards that have been produced till now have not been fully implemented at the manufacturing and end-user levels.
- A lot of work has to be done for the indigenization of non-implantable medical textile products along with the formulation of Indian standards on the same.
- More user feedback should be collected in order to update and modify existing versions of standards. To create a new standard, a group of manufacturers should submit a combined request for further evaluation of their products. The supporting clinical trials should also be backed by sufficient research and data.
- Agrotextiles made of natural fibers should be utilized to improve crop productivity instead of synthetic materials.
- BIS has already formulated various standards on Agrotextiles. Moreover, there shall be separate standards for all metallurgical items used for developing the structure in AgroTech sector such as GI pipe and GI rods/angles etc.
- AgroTech manufacturers and product consumers must actively participate in standardization efforts at all phases of standard development by providing an appropriate technical/domain expert.
- In order to acquire the confidence of users of these specialized products, industry should implement Indian Standards in their domain areas and opt for BIS certification and conformity assessment.

Session 3: GeoTech and BuildTech

"L-R Col. Soumendra Banerjee, Border Roads Organisation; Shri Manoj Kumar Rajpal, Executive Director, GeoTech, RDSO; Mr. S.K. Mishra, Chief General Manager (Technical) SRD&Q, NHAI; Mr. Himanshu Shukla, Scientist B, BIS. Also, Dr. Pulikanti Subramanya Prasad, Senior Principal Scientist, Geotechnical Engineering Division, CSIR- Central Road Research Institute and Prof. (Dr.) K. Murali, Dean, Department of Ocean Engineering, IIT Madras joined virtually. The session was chaired by Dr. T. V. Sreekumar, Director, BTRA virtually"

Key Discussion Points

- GeoTech applications are majorly required to manage landslides, provide stability, rescue sinking roadways, and survive continuous severe intensity rains.
- Limited use of GeoTech in India is a cause for concern, as the United States is leading the global share, while India's contribution is negligible.
- The right combination of GeoTech products and design shall provide the correct structure to prevent infrastructure breakdowns.
- Lack of regulation, insufficient standards on design, building, and installation of GeoTech products, lack of knowledge, and lack of R&D facilities are the major hurdles to the usage of GeoTech in India. Because India's strength requirements and expectations for GeoTech have improved and expanded, it is now time to strengthen and upgrade India's testing facilities and capabilities. Government should assist in the modernization of labs in order to meet the Geotextile requirement.
- It is critical that the usage of GeoTech be made mandatory in India in order to boost efficiency with the potential for huge cost savings, structural safety, and minimal environmental pollution, as well as large natural resource savings.
- India is currently an importer but is expected to become a significant exporter in the coming years with the production rate increasing despite the rising demand; however, once GeoTech standards are firmly established, this is achievable.
- Government intends to develop a GeoTech experience zone and technological demonstration centre where the general public may learn about GeoTech segment, its products, applications, and uses in roads, railroads, and infrastructure, among others.
- Building and architect structure requirement for temporary and permanent purposes for the increasing population is the need of the hour, thus R&D support from the institutes and COEs to industry to be encouraged to strengthen innovative solutions for efficient processes and high-quality products at affordable prices. For product standardization and migration toward high value or high-tech production in line to the global requirements, regularized standards for BuildTech should be set.

Session 4: MobilTech, Composites & InduTech

"L-R Mrs. Deepali Plawat, Deputy Director, ATIRA; Mr. Dharmbeer, Scientist C, BIS at Session 4: MobilTech, Composites and InduTech of 5th National Conclave on Standards for Technical Textiles. Dr. Santhosh, Group Director CMSE; Vikram Sarabhai Space Centre, ISRO, Department of Space and Mr. Ajay Chaube, Vice-President & Head-Business R&D, Head of Business Quality Management Team and Team Leader of Technical Textiles Strategic Planning Group, SRF Limited joined virtually"

Key Discussion Points

- One of the barriers to the development of the MobilTech segment is the lack of an international level testing facility.
- The process of development of standards and their adoption should be expediated and Government must facilitate the collaborative working of all stakeholders to promote the formulation and adoption of the new standard.
- The bottleneck in composites manufacturing is automation, which being not extensively used since the volume of composites required by end-users is modest, and producers find the high initial investment required for automation unattractive.
- Incubation centres for new businesses should include facilities for the development of composites products.
- In some cases, end-users are not aware of the material and are unable to discriminate between good and bad quality. Poor-quality products that enter the market at low prices often result in a significant decline in market growth due to a lack of consumer confidence. Thus, standards must be developed in accordance with international norms.
- It is crucial to indigenize production of the pre-preg and carbon fibre used in aerospace industry.
- Efforts for successful execution of projects related to composites should be recognized and rewarded at the major events which shall motivate more enterprises to participate to bring about the faster growth of the segment.

Few Glimpses

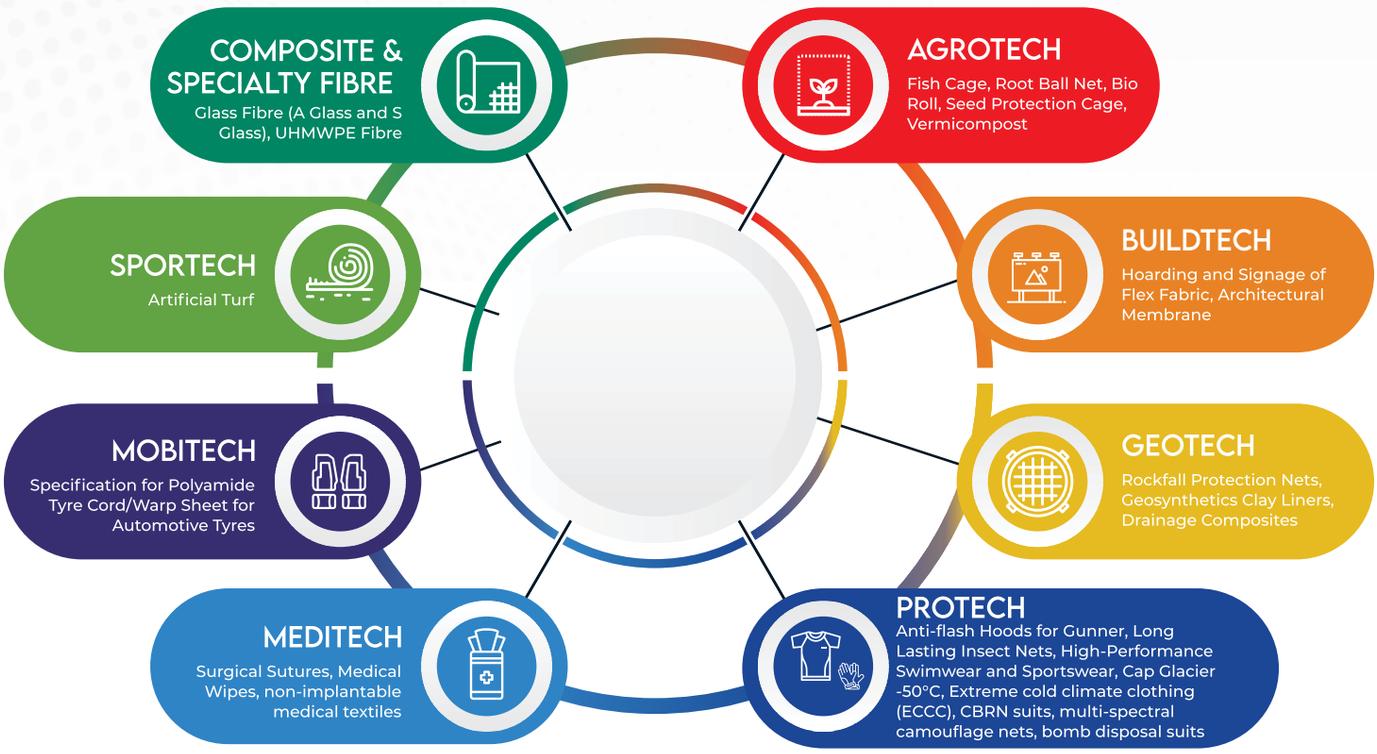
Key Actionable

- In India, the MediTech sector has limited or inadequate testing facilities. The manufacturing and testing infrastructure for composites and specialized fibres is likewise quite limited, and India is significantly reliant on imports in this field. Industry to form joint ventures with technology owners in the composites and specialty fibres. Government to devise a strategy for establishing manufacturing and testing infrastructure for these segments in India.
- In order to gain consumer confidence, industry and traders to implement Indian Standards in their domain areas and use the BIS conformity assessment scheme to ensure product quality.
- The relevant department of BIS has already formulated various standards on Agrotextiles and there shall be separate standard for all metallurgical items used for the structuring in Agrotech sector such as GI pipe and GI rods/angles etc.
- The subject of standardization in emerging areas of Technical Textiles, gap areas and the innovations, to be identified for inclusion in the Standard National Action Plan (SNAP 2022-27) presently being developed at BIS.
- BIS has developed cluster-based testing facility for Technical Textiles, which allows manufacturers to share a common testing infrastructure for specific products undergoing certification.
- Close coordination to be established with GeM for providing provisions to refer Indian Standards directly during tendering of Technical Textile products.
- In order to ensure the availability of safe and quality products and to prevent unfair trade practices, the Ministry of Textiles should consider issuance of Quality Control Orders (QCOs) for items of mass consumption and safety.
- In several segments, such as MediTech, InduTech, and MobilTech etc., user engagement and stakeholder awareness to be further increased.

India is expected to be a key market characterized by growing consumption due to the cost-effectiveness, durability and versatility of Technical Textiles.

Shri Rajeev Sharma
Deputy Director General (Standardization)
Bureau of Indian Standards

Technical Textiles Segments Identified for Standardization



Annexure: A

Status of Standards for Technical Textiles by BIS

Sl. No.	Sector	No. of Standards Published	No. of Standards Under Development
1	AgroTech	24	03
2	ProTech	74	03
3	BuildTech	07	02
4	ClothTech	33	-
5	GeoTech	80	05
6	HomeTech	59	02
7	InduTech	44	03
8	Composite & Speciality Fibres	34	02
9	MedTech	73	02
10	MobilTech	19	09
11	PackTech	55	07
12	SporTech	03	02
Total		**505**	**40**

Annexure: B

List of Speakers

1. **Shri Upendra Prasad Singh**, Secretary, Ministry of Textiles
2. **Lt. Gen. Rajeev Chaudhry**, VSM, Director General, Border Roads Organisation
3. **Shri Rajeev Sharma**, Deputy Director General (Standardisation), Bureau of Indian Standards
4. **Mr. Rajinder Gupta**, Chair FICCI-Textiles Committee & Chairman, Trident Ltd.
5. **Mr. Rajnikant Sabnavis**, Co-Chair FICCI-Textiles Committee & Chief Marketing Officer, Grasim Industries Ltd.
6. **Dr. Arindam Basu**, Director General, NITRA
7. **Mr. S. Sivakumar**, HoD, SITRA
8. **Dr. Manisha Mathur,** Joint Director SASMIRA
9. **Dr. T. V. Sreekumar**, Director, BTRA
10. **Mrs. Deepali Plawat**, Deputy Director, ATIRA
11. **J.K. Gupta**, Scientist E & Head Textiles, BIS
12. **Dr. Santhosh**, Group Director, Composite Structure Design Group in Composite Entity, CMSE, Vikram Sarabhai Space Centre, ISRO, Department of Space
13. **Brig. R. K. Suresh**, MGS Branch, Indian Army
14. **Col N.K. Singh**, MGS Branch, Indian Army
15. **Commander Vineet Kumar Arora**, Naval Headquarters, Indian Navy
16. **Mr. Dharmbeer**, Scientist C, BIS
17. **Mr. Himanshu Shukla**, Scientist B, BIS
18. **Mr. Mayur Katiyar**, Scientist
19. **Dr. Sanjoy Debnath**, Principal Scientist, ICAR- NIRJAFT
20. **Dr. R.K. Singh**, Project Coordinator, ICAR- CIPHET
21. **Dr. Manoj Kumar**, Joint Director- Horticulture, Department of Agriculture, Government of Haryana
22. **Dr. Sudipta Saha**, Prof. Dept. of Surgery, LHMS, DGHS
23. **Dr. Nitin Hayaran**, Prof. Dept. of Anesthesia, LHMS, DGHS
24. **Dr. Ravi Kant Sharma**, Deputy Drugs Controller (I), CDSCO
25. **Col. Soumendra Banerjee**, Border Roads Organisation
26. **Shri Manoj Kumar Rajpal**, Executive Director, GeoTech, RDSO
27. **S.K. Awasthi**, Director, GeoTech , RDSO
28. **Mr. Anupam Khare**, SSRE, GeoTech, RDSO
29. **Mr. S.K. Mishra**, Chief General Manager (Technical) SRD&Q, NHAI
30. **Dr. Pulikanti Subramanya Prasad**, Senior Principal Scientist, Geotechnical Engineering Division, CSIR- Central Road Research Institute
31. **Prof. (Dr.) K. Murali**, Dean, Department of Ocean Engineering, IIT Madras
32. **Mr. D. Roychoudhary**, Chief Engineer & **Mr. S. K. Ugrejeeya**, Director (S&D), CPWD
33. **Mr. Ajay Chaube**, Vice-President & Head- Business R&D, Head of Business Quality Management Team and Team Leader of Technical Textiles Strategic Planning Group, SRF Limited

List of Attendees*

1. **Mr. Sureshbhai Patel**, Managing Director, Sidwin Fabric Pvt. Ltd.
2. **Mr. Ayan Chakraborty**, Vice President, Ginni Filaments Ltd.
3. **Mr. Dharmesh Lakhani**, CEO, NEL Lifecare Products India Pvt. Ltd.
4. **Mr. Vatsal Shorewala**, Director, Shreya Print Pvt. Ltd.
5. **Ms. Mousumi Golui**, Faculty, SASMIRA
6. **Mr. Suryadeb Mukherjee**, Lead Consultant, Gherzi Consulting Engineers Pvt. Ltd.
7. **Mr. Yashodeep Patil**, Senior Manager- Design, Strata Geosystems (India) Pvt. Ltd.
8. **Mr. Suraj Vedpathak**, Senior Manager- Design, Strata Geosystems (India) Pvt. Ltd.
9. **Mr. Jagvir Singh Rathee**, Owner, Self-employed
10. **Mr. Pritam Singh Hanspal**, CMD, Guru Nanak Engineering Co.
11. **Mr. Harjodh Hanspal**, MD, Guru Nanak Engineering Co.
12. **Mr. Ravikanth Vetcha**, Asst. Vice-President, Reliance Industries Limited
13. **Mr. Shubham Pandey**, Engineer, Lohia Corp. Limited
14. **Mr. Sunil Gidwani**, Head- Quality, Reliance Industries Limited
15. **Ms. Palak Kakar**, Product Development and Innovation, Arvind Limited
16. **Mr. Shakti Singh**, Consultant, HIJ Consultants Inc.
17. **Mr. Deepak Arora**, Fabric Executive, Vamani Overseas Pvt. Ltd.
18. **Mr. Manish Sabharwal**, CEO, Dr. Sabharwal's Wound Care
19. **Mr. Robin Kapoor**, Managing Director and CEO, P.A.R.K Non Woven Pvt. Ltd.
20. **Mr. Jitender Yadav**, Deputy Manager, P.A.R.K Non Woven Pvt. Ltd.
21. **Mr. Narendra Kaushik**, VP Operation, Pratibha Syntex Ltd.
22. **Mr. Ashok Girdhar**, Head Textile, Clariant IGL Specialty Chemicals Private Limited
23. **Mr. Jitendra Sachchade**, MD, Medicare Hygiene Ltd.
24. **Mr. Iqbal Singh Sethi**, MD, Priyanka India Pvt. Ltd.
25. **Mr. Shailesh Shah**, Managing Director, Sky Industries Ltd.
26. **Mr. Pradeep Singh**, Head- Sales & Marketing, Manas Geo Tech India Pvt. Ltd.
27. **Mr. Swatang Sharma**, Sales Manager, Manas Geo Tech India Pvt. Ltd.
28. **Mr. Manjunatha Siddappa**, Vice-President- Speciality Products, Gokaldas Images Pvt. Ltd.
29. **Mr. Rajesh Maheshwari**, Country Manager, Shirley Technologies Pvt. Ltd.
30. **Mr. Amit Chirania**, Sr. Manager, Pashupati Laminators Pvt. Ltd.
31. **Mr. Umesh Kumar**, Senior Manager Marketing Defence, Shiva Texyarn Ltd.
32. **Mr. Cmde T N Kaul**, Vice-President- Marketing, Shiva Texyarn Ltd.
33. **Mr. Akash Verma**, Assistant Manager, Shiva Texyarn Ltd.
34. **Mr. Mayank Bansal**, Segment Manager, Terre Armée

35. **Mr. Sumonto Banerjee**, VP Sales, Terre Armée
36. **Mr. Mruthyunjaya Bashettiyavar**, Manager- Sales, Reinforced Earth India Pvt. Ltd.
37. **Mr. Sivakumar Sudhachandran**, AGM, Autoliv India Pvt. Ltd.
38. **Mr. Shyamlal Patnaik**, Jt. President Specialty Business, Grasim Industries Ltd.
39. **Mr. Yash Pal Malhotra**, Director, Superhouse Limited
40. **Ms. Natasha Mahesh**, Assistant Manager, Terre Armée India
41. **Mr. Murugan Thenkondar**, Joint President- Sales and Marketing, Grasim Industries Limited
42. **Mr. Aniket Bhute**, Technical Director, DKTE COE Nonwovens
43. **Mr. Rohit Thomas**, Marketing Manager, Terre Armée India
44. **Mr. Pradeep Tejawat**, General Manager, BSL Ltd.
45. **Mr. Puneet Kumar Pepraja**, BDO, Star Wire India Ltd.
46. **Mr. Krishnakumar Ramachandran**, Managing Director, Cologenesis Healthcare Pvt. Ltd.
47. **Mr. Sumit Swar**, Associate Manager, Terre Armée India
48. **Mr. Debashish Barua**, Assistant Manager Sales, Terre Armée India (Reinforced Earth India Private Limited)
49. **Mr. Navneet Mahar**, Associate Sales Manager, Reinforced Earth India Pvt. Ltd.
50. **Mr. Varun Dubey**, Assistant Manager- Business Development, Terre Armée India
51. **Mr. Pradeep Singh**, Technical & Business Consultant, Ployon Textile Pvt. Ltd.
52. **Mr. Rohit Yadav**, Marketing Manager, SMPL
53. **Mr. Rajiv Sharma**, Senior General Manager, Welspun India Limited
54. **Mr. Aiyub Shaikh,** Manager R&D, WIL Advance Textile
55. **Mr. Anikul Islam**, Asst. Manager R&D, WIL Advance Textile
56. **Mr. Prasun Mathur**, Asst. Manager R&D, WIL Advance Textile
57. **Ms. Prachi Mistry**, WIL Advance Textile
58. **Mr. Prince Joshi**, AVP, Reinforced Earth India Limited
59. **Mr. Rohit Sharma**, Asst. Manager Sales, Groz-Beckert Asia Pvt. Ltd.
60. **Mr. Saurabhh Vyas**, Head- Technical Services, Techfab India Industries Ltd.
61. **Dr. Balan K.**, Vice-Principal and Professor, Rajadhani Institute of Engineering and Technology, Nagaroor, Trivandrum
62. **Dr. Vijay Ramkrishnan**, Senior Vice-President- R&D, Garware Technical Fibres Ltd.
63. **Mr. Nitin Narkhede**, Assistant General Manager, Garware Technical Fibres Ltd.
64. **Mr. Rajendra Ghadge**, Senior Manager, Garware Technical Fibres Ltd.
65. **Mr. Kaushik Kumar Sinha**, DGM CBT, Haldia Petrochemicals Ltd.
66. **Ms. Priyanka Pittala**, Assistant General Manager, Aditya Birla Group
67. **Mr. Rajarshi Chakravorty**, Senior Manager, Maccaferri
68. **Mr. Suresh Prabhu**, Head- Quality Assurance, Big Bags International Pvt. Ltd.
69. **Mr. Debabrata De**, DGM- Business Development, Haldia Petrochemicals Ltd.
70. **Mr. Rajendra Saxena**, Consultant (Clothing and Textile), Fab ESoft Services
71. **Mr. Sagar Johri**, Asst. manager- BD, Maccaferri

72. **Mr. Arun Nag**, Sr. Vice-President and Unit Head, Ginni Filaments Limited
73. **Mr. Anuj Sharma**, Senior Executive, Arvind Limited
74. **Mr. Ajay Chaube**, Vice President, SRF Ltd.
75. **Mr. Inder Jeet Pruthi**, Managing Director, Alinz Group India
76. **Ms. Sonali Trivedi**, Partner, Alinz Buying House
77. **Mr. Suhas Thorat**, AVP- Market Development Health & Hygiene, Reliance Industries Limited
78. **Mr. Ankit Singla**, Director, Swastik Agri Solution Co.
79. **Mr. T.R Srikanth**, Haldia Petrochemicals Limited.
80. **Mr. Narendra Nath Mahato**, GM (PCM), Indian Oil Corporation Ltd.
81. **Mr. Ravinder Singh**, Assistant Manager (Petrochemical Marketing), Indian Oil Corporation Limited
82. **Mr. Dhananjay Sahoo**, GM (PC Strategy & TS), IOCL
83. **Mr. Erik Junghans**, Sales Manager, KMTT
84. **Mr. Ayush Goyal**, AGM Technical, Strata Geosystems India Pvt. Ltd.
85. **Mr. Bhavishya Devgun**, Founder, Salutem Ridegear Apparels Pvt. Ltd.
86. **Mr. Nirmal Mohapatra Nfdi**, Founder & CEO, Sykefit Pvt. Ltd.
87. **Ms. Saumya Garg**, Student, National Institute of Fashion Technology
88. **Mr. Sanjay Chauhan**, CEO, MuddleArt
89. **Ms. Tasneem Merchant**, Creative Head, Myriad Hues
90. **Mr. Sagar Khandelwal**, Dy. General Manager, Grasim Industries
91. **Mr. Shishir Gupta**, Business Development Manager, Maccaferri Environmental Solutions Pvt. Ltd.
92. **Ms. Charu Agrawal**, Senior Manager, MRPL
93. **Mr. Suraj Naik**, Scientist B, AMTZ
94. **Mr. Prasenjit Mandal**, Senior General Manager, Garden Silk Mills Pvt. Ltd.
95. **Mr. Sudarsan Rajagopalan**, Managing Partner, Splendour Medicare Technologies
96. **Mr. Kiran Warrier**, SBU Head, Welspun Advanced Textiles
97. **Mr. Neeraj Shukla**, Manager, Welspun
98. **Mr. Yogesh Sathe**, Research Analyst, Gherzi Consulting Engineers
99. **Dr. Soumyen Pal**, Asst. Vice-President, Garden Silk Mills Pvt. Ltd.
100. **Mr. Harish Zope**, Senior Vice-President (Technical), Garden Silk Mills Pvt. Ltd.
101. **Dr. R. A. Lal**, Director (Retd.), Government of India
102. **Mr. Dhanraj Bhokare**, Dy. Manager, Haldia Petrochemicals Ltd.
103. **Mr. Shashank Srivastava**, Manager, IOCL
104. **Mr. Abhishek Sharma**, General Manager- Sales, Strata Geosystems (India) Pvt. Ltd.
105. **Mr. Sanjeev Khurana**, General Manager- Commercial, Strata Geosystems (India) Pvt. Ltd.
106. **Mr. Navneet Gupta**, Star Safety Hub
107. **Mr. Suryadeb Mukherjee**, Lead Consultant, Gherzi Consulting Engineers Pvt. Ltd.
108. **Mr. Kapil Mehrotra**, Head- Institutional Sales, Sky Industries Ltd.

*This is the list of attendees who attended the event physically rest of them attended virtually

National Technical Textiles Mission
Head Office: Ministry of Textiles
Udyog Bhavan, New Delhi

Mission Directorate:
3rd Floor, Handloom Haat 76, India Connaught Ln
Atul Grove Road, Janpath, Connaught Place
New Delhi, Delhi-110001

Email ID: nttm-textiles@nic.in

Website: texmin.nic.in