Textile Machinery Industry in India

September 2021
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Foreword

Vijoy Kumar Singh
Additional Secretary
Ministry of Textiles

FOREWORD

The textile machinery industry in India is witnessing exponential growth. India boasts of a presence of large number of domestic as well global players in this segment.

Spinning machinery, weaving preparatory, synthetic machinery are some of the segments where India is at par with international standards. A robust R&D ecosystem fostering innovation, availability of large workforce, favourable policy support has propelled the growth of India and made it stand out on a global footing.

There are several segments where marginal technological gap exists, and attempts are being made to gradually overcome them. A strong textile engineering industry that can grow, compete, and export, would be able to provide support to the rising Indian textile industry, adding vibrancy and competitiveness.

Following Prime Minister Narendra Modi’s Make-in-India initiative and “Atma Nirbhar Bharat”, the textile and apparel industry is being infused with the mantras of ‘skill, scale, speed’ for scaling up employment, production and exports. India already has the entire textile value chain in manufacturing from fibre-to-apparel, and I am happy to share that government is giving thrust to textile machinery industry at the highest level. A series of path-breaking measures have already been initiated and many important steps are being planned for implementation in near future.

Aiming to showcase the many opportunities pertaining to emerging sub-sectors within textile machinery to the global investor community, I would like to congratulate Invest India for bringing out this report on Textile Machinery Industry in India.

(Vijoy Kumar Singh)
Foreword

MESSAGE

Textile machinery sector has been a promising area for the Indian industry. The manufacturing sector is crucial for the development of the country’s economy as the Capital Goods industry contributes about 12 per cent to the total manufacturing activity in India that is about 2 per cent of the GDP.

India has a lot of ground to cover in textile machinery manufacturing and I am happy to share that Government is taking proactive steps in supporting this sector. Under vision of Aatma Nirbhar Bharat, Ministry under its scheme for Enhancement of Competitiveness in the Capital Goods Sector has supported indigenous development of rapier loom by CMTI, Bangalore in collaboration with industry and TMMA which is capable of operating at 450 rpm; it encompasses major technological advancements at sub system levels at par with global technologies. Hi Tech Shuttle less loom for operating at 550 rpm is under development. Another project for enabling Indian textile manufacturers/industries through automation process employed in supplying sliver cans at the required places in the shop floor has been developed at Centre of Excellence for Automated Guided Vehicle in Textiles by IIT Delhi in association with LMW Ltd. under the same scheme.

PPO for textile machinery, issued in 2017, is under revision in accordance with the directions of DPIIT issued in 2019-20. This step will further promote the growth of indigenous textile machinery industry. The Ministry plans to identify and facilitate many more initiatives of progressive indigenization in the textile machinery sector.

I wish to congratulate the organizers for arranging this event, which will provide a platform for exchange of ideas between the various stakeholders and help in charting the future path of growth of textile machinery industry in the country.
Foreword

Deepak Bagla
Managing Director & CEO
Invest India

The growing textile industry currently valued at USD 150 Bn has provided much buoyancy to the textile machinery industry in India. Growth in the domestic market and potential export opportunities imply that textile machinery demand is steadily growing as well, both in India and the world.

There are about 3,250 companies involved in manufacturing of textile machineries, accessories and trading of the equipment in India. The industry not only caters to rising domestic demand but also has the potential to establish India as an export hub for textile machinery with spinning machines representing the largest export opportunity.

A major component of textile machinery industry in India thrives on the global partnerships that companies in India have forged with their global counterparts in Germany, Italy or Japan. 100% Foreign Direct Investment (FDI) is allowed through the automatic route in this segment which coupled with a supportive policy ecosystem, is keen on welcoming more investors to India and take advantage of its manufacturing competitiveness.

This report focuses on providing an overview of the Textile Machinery Industry in India. It presents a range of incentives, support mechanisms and opportunities presented by India. The report further showcases the vast potential and investment opportunities in the Indian textile machinery industry.

I thank all those who have helped in bringing this report to the fore and hope that readers find it insightful.

Sincerely yours,

Deepak Bagla

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Foreword

Vallabh S. Thumar
Chairman
Textile Machinery Manufacturers’ Association

TEXTILE MACHINERY MANUFACTURERS’ ASSOCIATION (INDIA)

FOREWORD: TMMA (I)

The Indian textile engineering industry (TEI) is at the cornerstone of moving up the manufacturing excellence wherein the domestic R&D, entrepreneurial spirit and exploration of Joint Ventures have ushered in new opportunities. Historically, Indian TEI is one of the very few industries which can boast of having presence in all the important industry verticals not only producing the textile machineries and accessories for the domestic market but also exporting almost 60% of its annual production to overseas markets.

The long-awaited structural reforms of GST, skill development initiatives, scrapping of obsolete laws, and formulating industry friendly policies have rekindled a ray of optimism among the organized sector in the country. There still exists some challenges in the form of current Covid-19 uncertainties, liquidity, and rising costs of raw materials and freight movement, however, the industry is confident of overcoming these issues. The national movement of ‘Atma Nirbhar Bharat’ and ‘Make in India’ has instilled a thought among the entrepreneurs that the inclusive development of the entire value chain from globally-competitive-technology’s perspective as well as sufficing the needs of the domestic and international market viewpoint, is the only answer to attain this national objective.

This very initiative of bringing all the relevant stakeholders viz industry, academia, institutions and various government ministries on the same platform will synergize our efforts. The industry is confident that under the able guidance of the Ministry of Textiles, and Ministry of Heavy Industry & Public Enterprises, the Indian TEI will enhance its energies in the areas of state-of-the-art technology R&D, import substitution and export promotion.

We wish this initiative a big success!

Dated: 30-08-2021
Name: Vallabh S. Thumar
Location: Surat
Designation: Chairman
This opportunity paper is yet another milestone by the Indian government in reaching out to the industry for creating synergy with each other. This is an excellent outreach effort that will reinforce India’s energies in becoming an ‘Atma Nirbhar Bharat’ under our flagship campaign ‘Make in India.’

Over the years, while the decision making by the policy makers was attempted to be kept in tandem with the industry’s futuristic requirements, it was felt that the synchronization in the policy making by the relevant stakeholders across the ministries and departments was lacking. This paper which presents the ideas and challenges of the Indian textile machinery industry, envisages to offer a comprehensive strategic planning by not only the Ministry of Textiles, but also the Ministry of Heavy Industry, Ministry of Commerce and Industry.

Therefore, this paper which shall be tabled during a roundtable discussion among the stakeholders from the government, and the industry should be able to bring out a win-win outcome for all.
Introduction

The history of textile production in India harkens back to times immemorial. Not only did India make strides in producing a myriad of textiles but gave equal importance to textile machinery as well. To take the instance of India’s freedom struggle, not only khadi but also charkha (the spinning wheel) was placed at the heart of the independence movement. The simple act of adopting khadi and charkha, as propagated by Mahatma Gandhi, took the freedom movement to the masses, and made charkha a symbol of self-reliance. In many ways, this resonates with Prime Minister Narendra Modi’s vision for India and the spirit of ‘Aatmanirbhar Bharat’ (self-reliant India).

India has been the leader in textiles globally with strong textiles tradition and a market size of USD 150 Bn. Growth in the domestic market and potential export opportunities imply that textile machinery demand should grow at a Compounded Annual Growth Rate (CAGR) of 10-12 per cent. A ~USD 2.5 Bn textile machine industry which is growing at 5 per cent currently reflects on the growing strength of this sub-segment in the textiles value chain in India. A strong textile engineering industry that can grow, compete, and export would be able to provide support to the rising Indian textile industry, adding vibrancy and competitiveness.

Considered to be an integral part of the capital goods sector, the textile machinery industry comprises of the following categories of machines:

- Machines for extruding, drawing, texturing or cutting man-made textile materials.
- Machines for preparing textile fibers, spinning, twisting, etc. Machinery for producing textile yarns, machines for preparing textile yarns for use on other machines.
- Weaving machines. (Looms)
- Knitting machines, stitch bonding machines and machines for making crimped yarn, tulle lace, embroidery, trimming, braid/net and machines for tufting.
- Auxiliary machinery, parts and accessories.
- Machinery for manufacturing of finishing of felt or non-woven in piece/in shapes including machinery for making felt hats, blocks for making hats.
- Other parts of household laundry type machinery etc., machines for applying paste to base fabric, etc. and machines for reeling, unreeling, folding/cutting textile fabric.
The Textile Engineering Industry (TEI) produces the entire range of textile machinery for cotton, blended, and manmade fiber textiles. The traditional powerhouses in this segment have been France, Germany, Japan, Italy, Belgium, Switzerland, and China. Where Japan is home to more than 45 textile machinery giants, we know of world famous Italian machines which are known for their fine craftsmanship. German machines are known for their robust quality, while Belgian machine makers believe in strong Research & Development (R&D). The French are famous for their Jacquard, while China is known for its competitive prices.

As per the 60th Annual Report by the Textile Machinery Manufacturing Association (TMMA), the Asian region will account for more than 90 per cent of the total textile machinery market share, and in order to expand its technical horizons, many textile machine companies in the country are joining hands with their western counterparts to produce technologically advanced machines.

In terms of market share, Asia-Pacific occupied 82.57 per cent revenue in 2018. The worldwide market for textile machinery is expected to grow at a CAGR of roughly 6 per cent over the next five years, and will reach USD 55.42 Bn in 2024, from USD 41.51 Bn in 2019.

An analysis of the specific segments in textile machinery industry yields the following results.

The total number of shipped short-staple spindles decreased by about 1.7 Million (Mn) units in 2019 to a level of 6.96 Mn. Most of the new short-staple spindles (92 per cent) were shipped to Asia and Oceania. India was among the largest investors in the short-staple segment. There were only 500,000 open-end rotors shipped worldwide, representing a 147,500 units drop, compared to 2018. Global shipments of long-staple spindles decreased from 120,000 in 2018 to nearly 40,000 in 2019. 80 per cent of total deliveries were shipped to China and India.

Source: Wikimedia Commons
Global shipments of single heater draw-texturing spindles increased by 12 per cent from nearly 22,800 in 2018 to 25,500 in 2019. With a share of 88 per cent, Asia and Oceania was the strongest destination for single heater draw-texturing spindles. In the category of double heater draw-texturing spindles, global shipments decreased by 5 per cent, and Asia’s share of worldwide shipments decreased to 90 per cent.

Global shipments of large diameter circular knitting machines fell by 1.2 per cent in 2019. Asia and Oceania were the world’s leading investor in this category with 86 per cent of worldwide shipments. India was ranked second to China in deliveries. In 2019, the segment of electronic flat knitting machines decreased by 40 per cent. China remained the largest investor with a share of 80 per cent.

Global shipments of shuttle-less looms decreased by 0.6 per cent. Shipments in the categories of ‘air-jet’ and ‘rapier and projectile’ fell by 7.7 per cent and 22 per cent respectively. The main destination for shuttle-less looms in 2019 was Asia and Oceania with 95 per cent of all worldwide deliveries. Deliveries of weaving machines to India and China reached 89 per cent of the total.

Source: Wikimedia Commons

5. https://commons.wikimedia.org/wiki/File:Gyper centC3per centB3gyharisnya-kper centC3per centB6p.jpg
In the ‘fabrics continuous’ segment, shipments of stenters and washing (stand-alone) grew by 34 per cent and 0.6 per cent respectively. In the ‘fabrics discontinuous’ segment, machines shipped rose by 35 per cent. Deliveries in all other machine categories decreased in 2019.

Global Players by Total Revenue

1. PICANOL
2. øerlikon
3. Muratec MURATA MACHINERY, LTD.
4. JINGWEI TEXTILE MACHINERY CO., LTD.
5. JUKI
6. SAURER.
7. TMT MACHINERY, INC.
8. Rieter Textilmaschinen AG

India has established a strong and vertically integrated supply chain in textile and apparel manufacturing and is one of the leading manufacturing destinations for the world. Escalating labor costs across the globe contributes to India’s importance as a cost competitive manufacturing base for all types of textile products across the value chain. More than 80 per cent of the units in this segment are Small and Medium Enterprises (SMEs). The industry provides direct and indirect employment to more than 300,000 people and meets almost half the demand of the Indian textile industry.

Indian domestic textile market has been estimated at USD 113 Bn (less export). Growth in the domestic market and potential export opportunities imply that textile machinery demand should grow at a CAGR of 10-12 per cent.

Production of Textile Engineering Industry (2015-2020)

9. Estimates by TMMA, with help from the TEI Survey. [Published 17 January, 2019]
A critical part of the TEI industry in India comprises of the accessories industry, where accessories contribute to about 15 per cent of the total production, with about 33 per cent of all accessories produced being exported.

As per the 60th Annual Report of the TMMA, the value wise production of different categories of the TEI is as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spinning &amp; Allied Machines</td>
<td>464</td>
<td>482</td>
<td>508</td>
<td>483</td>
<td>339</td>
</tr>
<tr>
<td>Synthetic Filament Yarn Machines</td>
<td>58</td>
<td>53</td>
<td>51</td>
<td>53</td>
<td>46</td>
</tr>
<tr>
<td>Weaving &amp; Allied Machines</td>
<td>116</td>
<td>120</td>
<td>118</td>
<td>119</td>
<td>95</td>
</tr>
<tr>
<td>Processing Machines</td>
<td>83</td>
<td>84</td>
<td>86</td>
<td>100</td>
<td>87</td>
</tr>
<tr>
<td>Miscellaneous (Spinning, Weaving, Processing, Jute) Machines</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Textile Testing &amp; Measuring Instruments</td>
<td>15</td>
<td>13</td>
<td>17</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>Hosiery Machines/Hosiery Needles</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Total Of Machinery</td>
<td>747</td>
<td>765</td>
<td>795</td>
<td>791</td>
<td>603</td>
</tr>
<tr>
<td>Spares &amp; Accessories</td>
<td>128</td>
<td>120</td>
<td>122</td>
<td>123</td>
<td>109</td>
</tr>
<tr>
<td>Grand Total</td>
<td>875</td>
<td>885</td>
<td>917</td>
<td>914</td>
<td>712</td>
</tr>
</tbody>
</table>

Value-wise overall production data of different categories of the industry during the last 5 years (Value in USD Mn)

There are about 3,250 companies involved in manufacturing of textile machineries, accessories and trading of the equipment in India.

In this, 45 per cent are machinery manufacturers, 40 per cent accessories manufacturers and remaining 15 per cent are authorized dealers or agents. Percentage share of total domestic demand for machinery met by indigenous textile machinery industry has been around 70 per cent. There is tremendous opportunity in machinery manufacturing for segments such as weaving, knitting, processing, digital printing, and 3-D printing.

The machinery manufacturing operation takes place both in the organised and the unorganised sectors. In the organised sector, in addition to the public limited companies, machinery manufacturing is done in independent units, which have collaborative joint ventures with the foreign entities. In the unorganised sector, there are small-scale industrial units as well as tiny units engaged in the production of accessories pertaining to the textile machinery.

Owing to the diversity that exists in this industry in terms of its products, Indian machinery has been categorized in the following groups, as per analysis by TMMA: 10, 11, 12. TMMA Annual Report.
The different technology levels have been supplying all kinds of textile machines to domestic and export markets. This has led to the overall market size getting divided into segments. Below is a chart of capacity utilization of the Indian TEI which was published in TMMA’s 60th Annual Report in 2020.

<table>
<thead>
<tr>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>At Par with International Standard</strong></td>
<td><strong>Marginal Technological Gap Exists</strong></td>
<td><strong>Huge Technological Gap Exists</strong></td>
</tr>
<tr>
<td><strong>Ginning &amp; Spinning</strong></td>
<td><strong>Weaving</strong></td>
<td><strong>Spinning</strong></td>
</tr>
<tr>
<td>Auto Feeding to be developed (Standalone R&amp;D by Aalidhra &amp; Meera industries underway)</td>
<td>(HS Cam rapier loom developed) Proposals for airjet &amp; waterjet R&amp;D to be made on its success</td>
<td>(Auto-coners/winders, fancy doublers to be developed) (Possibility for a JV/FDI)</td>
</tr>
<tr>
<td><strong>Weaving Preparatory</strong></td>
<td><strong>Processing Machinery</strong></td>
<td><strong>Garment Making Machinery</strong></td>
</tr>
<tr>
<td>(Proposal under development for a Technology Acquisition)</td>
<td>(Continuous processing range developed. Concept paper for R&amp;D and tech. Acquisition underway.)</td>
<td>(FDI/JVs for Garments, home furnishing, Flat &amp; Hi dia. Circular knitting machines. (Upcoming JVs for fabric cutting)</td>
</tr>
<tr>
<td><strong>Testing Equipment</strong></td>
<td><strong>Embroidery Machinery</strong></td>
<td><strong>Processing Machinery</strong></td>
</tr>
<tr>
<td>(Standalone R&amp;D by Premier &amp; Magsolvics underway)</td>
<td>(Indigenous tech developed, commercialization to be done)</td>
<td>(Machines for synthetic dyeing to be developed)</td>
</tr>
<tr>
<td><strong>Processing Machinery</strong></td>
<td><strong>Knitting Machinery</strong></td>
<td><strong>Technical Textiles/Non Woven</strong></td>
</tr>
<tr>
<td>(World-class stenters, washing and mercerizing, rotary printing machines by InspirOn, Yamuna, Stovec: Advanced R&amp;D underway)</td>
<td>(Indigenous Tech for HS Circular WEFT &amp; Flat Knitting developed) Commercialization to be done.</td>
<td>Meditech: Spunlace, Spunbond, Mask, PPE making machine. Others: Special fibers Special fibers, Braiding, Needle-punch, Multi-axial looms, Net Knitting, Spunlace, Spunbond etc. to be developed/brought by FDI/JV based on market size needed</td>
</tr>
<tr>
<td><strong>Jute Machinery</strong></td>
<td><strong>Parts, Components &amp; Accessories</strong></td>
<td><strong>Others:</strong> Special fibers, Braiding, Needle-punch, Multi-axial looms, Net Knitting, Spunlace, Spunbond etc. to be developed/brought by FDI/JV based on market size needed</td>
</tr>
<tr>
<td>(JV done with a Chinese company, DPR for Jute CEFC submitted)</td>
<td>(CEFC Surat project ongoing)</td>
<td></td>
</tr>
</tbody>
</table>
Capacity Utilisation of Textile Engineering Industry

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Capacity</th>
<th>% Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-2016</td>
<td>900</td>
<td>1504</td>
<td>60%</td>
</tr>
<tr>
<td>2016-2017</td>
<td>910</td>
<td>1504</td>
<td>61%</td>
</tr>
<tr>
<td>2017-2018</td>
<td>944</td>
<td>1504</td>
<td>63%</td>
</tr>
<tr>
<td>2018-2019</td>
<td>939</td>
<td>1504</td>
<td>62%</td>
</tr>
<tr>
<td>2019-2020</td>
<td>733</td>
<td>1504</td>
<td>49%</td>
</tr>
</tbody>
</table>
# India Outlook: Trade in Textile Machinery

The latest data on exports in textile machinery is seen in the following table. For the sake of brevity, HS Codes 8449 and HS Code 8451 have also been included in the table below:

<table>
<thead>
<tr>
<th>Description</th>
<th>Industry Segment</th>
<th>HS Code</th>
<th>2019 – 2020 Exports</th>
<th>% Share</th>
<th>2020 – 2021 Exports</th>
<th>% Share</th>
<th>% Change</th>
<th>Exported to (in 2020-21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machines for Extruding, Drawing, Texturing, or Cutting Man-Made Textile Materials</td>
<td>Spinning and Allied Machines.</td>
<td>8444</td>
<td>5.65</td>
<td>0.2%</td>
<td>7.19</td>
<td>0.3%</td>
<td>27.79</td>
<td>Argentina, Turkey, Egypt</td>
</tr>
<tr>
<td>Machines for Preparing Textile Fibres; Spinning, Twisting, Etc. Machinery for Producing Textile Yarns; Machines for Preparing Textile Yarns for Use on Machines Of 8446/84</td>
<td>Spinning and Allied Machines.</td>
<td>8445</td>
<td>182.88</td>
<td>5.8%</td>
<td>160.96</td>
<td>5.5%</td>
<td>-11.98</td>
<td>Vietnam, Malaysia, Uzbekistan, Oman, Turkey, Bangladesh</td>
</tr>
<tr>
<td>Weaving Machines [Looms]</td>
<td>Weaving and Allied Machines.</td>
<td>8446</td>
<td>32.79</td>
<td>1.1%</td>
<td>32.57</td>
<td>1.1%</td>
<td>-0.66</td>
<td>Vietnam, Bangladesh, Egypt, Tanzania, UAE, Turkey</td>
</tr>
<tr>
<td>Knitting Machines, Stitch-Binding Machines, And Machines for Making Gmpd Yarn, Tulle, Lace, Embroidery, Trimming, Braid/Net, And Machines for Tufting</td>
<td>Knitting, Embroidery, Braiding, etc.</td>
<td>8447</td>
<td>4.43</td>
<td>0.1%</td>
<td>4.32</td>
<td>0.2%</td>
<td>-2.46</td>
<td>Germany, Nepal</td>
</tr>
</tbody>
</table>

13. [https://tradestat.commerce.gov.in/eidb/default.asp](https://tradestat.commerce.gov.in/eidb/default.asp)
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>HS Code</th>
<th>Value [USD Mn]</th>
<th>Growth %</th>
<th>Value 2019 [USD Mn]</th>
<th>Growth %</th>
<th>Change [%]</th>
<th>Export Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary Machinery Used With Machines Of HDG 8444, 8445, 8446/8447; Parts And Accessories Used With This HDG 8444, 8445, 8446/8447</td>
<td>Auxiliary Machines.</td>
<td>8448</td>
<td>149.79</td>
<td>4.8%</td>
<td>139.02</td>
<td>4.8%</td>
<td>-7.19</td>
<td>China, Germany, Japan, Netherland</td>
</tr>
<tr>
<td>Machinery For Manufacture Of Finishing Of Felt Or Non-Wovens In-Piece/In-Shapes, Including Machinery From Felt Hats, Blocks For Making Hats</td>
<td>Textile Testing and Non-woven Machines.</td>
<td>8449</td>
<td>0.63</td>
<td>0.02%</td>
<td>1.48</td>
<td>0.1%</td>
<td>133.67</td>
<td>Algeria, Nepal, Bangladesh</td>
</tr>
<tr>
<td>Washing, Bleaching, Or Dyeing Machines</td>
<td>Processing Machines.</td>
<td>845140</td>
<td>9.18</td>
<td>0.3%</td>
<td>8.77</td>
<td>0.1%</td>
<td>-4.48</td>
<td>Turkey, Bangladesh</td>
</tr>
<tr>
<td>Machines For Reeling, Unreeling, Folding Cutting Or Pinking Textile Fabrics</td>
<td>Processing Machines.</td>
<td>845150</td>
<td>1.85</td>
<td>0.1%</td>
<td>0.65</td>
<td>0.002%</td>
<td>-65.01</td>
<td>Bangladesh, Sri Lanka, Brazil</td>
</tr>
<tr>
<td>Other Machinery</td>
<td>Processing Machines.</td>
<td>845180</td>
<td>9.53</td>
<td>0.3%</td>
<td>17.88</td>
<td>0.6%</td>
<td>87.49</td>
<td>Argentina, Kenya, Belarus, Uzbekistan</td>
</tr>
<tr>
<td>Parts Of the Machines Of HDG 8451</td>
<td>Processing Machines.</td>
<td>845190</td>
<td>42.23</td>
<td>1.4%</td>
<td>43.31</td>
<td>1.5%</td>
<td>2.56</td>
<td>Czech Republic, Germany, Poland, Uzbekistan</td>
</tr>
<tr>
<td>Sewing Machines, Exclusive Book Sewing Machines of HDG No. 8440; Furniture, Bases, And Covers Specially Designed for Sewing Machines; Sewing Machine Needles</td>
<td>Garmenting and Industrial Sewing and Stitching.</td>
<td>8452</td>
<td>58.61</td>
<td>1.9%</td>
<td>60.08</td>
<td>2.1%</td>
<td>2.5</td>
<td>Afghanistan, Bangladesh, Germany, Myanmar, Nepal, UAE</td>
</tr>
<tr>
<td><strong>Total [USD Mn]</strong></td>
<td></td>
<td></td>
<td>497.57</td>
<td>15.9%</td>
<td>476.23</td>
<td>16.3%</td>
<td>162.23</td>
<td></td>
</tr>
</tbody>
</table>
The latest data on imports in textile machinery is seen in the following table. For the sake of brevity, HS Codes 8449 and 8451 have also been included in the table below.

<table>
<thead>
<tr>
<th>Description</th>
<th>HS Code</th>
<th>Industry Segment</th>
<th>2019 – 2020 Imports</th>
<th>% Share</th>
<th>2020 – 2021 Imports</th>
<th>% Share</th>
<th>% Change</th>
<th>Imported from (in 2020-21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machines For Extruding, Drawing, Texturing, Or Cutting Man-Made Textile Materials</td>
<td>8444</td>
<td>Spinning and Allied Machines</td>
<td>44.13</td>
<td>0.9%</td>
<td>27.44</td>
<td>0.7%</td>
<td>-37.82</td>
<td>China, Germany, Japan</td>
</tr>
<tr>
<td>Machines For Preparing Textile Fibres; Spinning, Twisting, Etc. Machinery For Producing Textile Yarns; Machines For Preparing Textile Yarns For Use On Machines Of 8446/84</td>
<td>8445</td>
<td>Spinning and Allied Machines</td>
<td>220.96</td>
<td>4.7%</td>
<td>148.88</td>
<td>3.8%</td>
<td>-32.62</td>
<td>Belgium, China, Germany, Japan, Italy, Netherland</td>
</tr>
<tr>
<td>Weaving Machines [Looms]</td>
<td>8446</td>
<td>Weaving and Allied Machines.</td>
<td>378.09</td>
<td>8%</td>
<td>262.2</td>
<td>6.7%</td>
<td>-30.65</td>
<td>Belgium, China, Germany, Japan, Italy</td>
</tr>
<tr>
<td>Knitting Machines, Stitch-Binding Machines, And Machines For Making Gmpd Yarn, Tulle, Lace, Embroidery, Trimming, Braid/Net, And Machines For Tufting</td>
<td>8447</td>
<td>Knitting, Embroidery, Braiding, etc.</td>
<td>291.86</td>
<td>6.2%</td>
<td>188.7</td>
<td>4.8%</td>
<td>153.35</td>
<td>China, Germany, Japan, Taiwan</td>
</tr>
<tr>
<td>Auxiliary Machinery Used With Machines Of Hdg 8444, 8445, 8446/8447; Parts And Accessories Used With This Hdg 8444, 8445, 8446/8447</td>
<td>8448</td>
<td>Auxiliary Machines.</td>
<td>345.26</td>
<td>7.3%</td>
<td>254.76</td>
<td>6.5%</td>
<td>-26.21</td>
<td>China, Germany, Japan, Netherland, Switzerland, Italy</td>
</tr>
<tr>
<td>Machinery For Manufacture Of Finishing Of Felt Or Non-Wovens In-Piece/In-Shapes, Including Machinery From Felt Hats, Blocks For Making Hats</td>
<td>8449</td>
<td>Textile Testing and Non-woven Machines.</td>
<td>93.02</td>
<td>2.0%</td>
<td>62.23</td>
<td>1.6%</td>
<td>-33.1</td>
<td>China, France, Germany, Korea RP</td>
</tr>
</tbody>
</table>

14. [https://tradestat.commerce.gov.in/eidb/default.asp](https://tradestat.commerce.gov.in/eidb/default.asp)
<table>
<thead>
<tr>
<th>Description</th>
<th>845140</th>
<th>Processing Machines</th>
<th>45.69</th>
<th>1.0%</th>
<th>23.16</th>
<th>0.6%</th>
<th>-49.31</th>
<th>China, Italy, Korea RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washing, Bleaching, Or Dyeing Machines</td>
<td>845150</td>
<td>Spinning and Allied Machines</td>
<td>26.01</td>
<td>0.6%</td>
<td>21.98</td>
<td>0.6%</td>
<td>-15.51</td>
<td>China, France, Germany, Turkey, USA</td>
</tr>
<tr>
<td>Processing Machines</td>
<td>845180</td>
<td>Processing Machines</td>
<td>99.02</td>
<td>2.1%</td>
<td>74.17</td>
<td>1.9%</td>
<td>-25.1</td>
<td>China, Germany, Hong Kong, Italy, Korea RP, UK</td>
</tr>
<tr>
<td>Other Machinery</td>
<td>845190</td>
<td>Processing Machines</td>
<td>20.01</td>
<td>0.4%</td>
<td>18.59</td>
<td>0.5%</td>
<td>-7.1</td>
<td>China, Germany, Italy, USA</td>
</tr>
<tr>
<td>Parts Of The Machines Of Hdg 8451</td>
<td>8452</td>
<td>Garmenting and Industrial Sewing and Stitching</td>
<td>237.99</td>
<td>5.0%</td>
<td>191.02</td>
<td>4.9%</td>
<td>-19.74</td>
<td>China, Germany, Japan, Malaysia, Singapore, Thailand, Vietnam</td>
</tr>
</tbody>
</table>

As per TMMA, the chart below shows the relationship between total domestic demand, production, and imports, as well as the percentage share of domestic demand met by the textile industry.

Import and Export have plummeted only negligibly in 2021.

The industry as a whole is showing resilience in spite of the onslaught and resurgence of the COVID19 pandemic.
Percentage Share of Domestic Demand met by Industry
Key Hubs and Clusters\textsuperscript{15}

\begin{itemize}
  \item **Gujarat**
    \begin{itemize}
      \item Surat
      \item Umbergaon
      \item Bilmora
      \item Ahmedabad
      \item Surendranagar
      \item Vadodara
      \item Palghar
      \item Mumbai
    \end{itemize}
  
  \item **Maharashtra**
    \begin{itemize}
      \item Mumbai
      \item Pune
      \item Thane
      \item Palghar
    \end{itemize}
  
  \item **Tamil Nadu**
    \begin{itemize}
      \item Coimbatore
      \item Hosur
      \item Tirupur
      \item Namakkal
    \end{itemize}
  
  \item **Punjab**
    \begin{itemize}
      \item Ludhiana
      \item Amritsar
      \item Jalandhar
    \end{itemize}
  
  \item **Haryana**
    \begin{itemize}
      \item Panipat
      \item Gurugram
    \end{itemize}

  \item **Delhi**
    \begin{itemize}
      \item New Delhi
    \end{itemize}
  
  \item **Karnataka**
    \begin{itemize}
      \item Bengaluru
    \end{itemize}
  
  \item **Himachal Pradesh**
    \begin{itemize}
      \item Solan
    \end{itemize}
  
  \item **Madhya Pradesh**
    \begin{itemize}
      \item Indore
    \end{itemize}
\end{itemize}

\textsuperscript{15} TMMA Annual Report, comprehensive list of members.
Key Trends and Growth Areas

Growth drivers in India for textile machineries include increasing purchase of new machinery to meet the increasing demand for textile products, strong post pandemic economic recovery, and the presence of a large number of competitive small-scale players.

India Advantage

- **Rising Costs in China:** Production costs in China are rising at a faster rate than any other developing countries. Increase in manpower cost is a major factor which will impact the cost of machinery manufacturing as well. The hourly labour cost in China has almost quadrupled since 2000 and is further expected to increase in the near future. In addition to it, the demographic shifts in China will inhibit the labour force in coming years due to ageing population. In contrast, India has favorable demographics with a young population base with 65 per cent of its population below 35 years of age.

- **Export Opportunity:** Presence of textile industries in neighboring countries like Bangladesh pose tremendous export opportunities (~17 per cent export demand). India has signed bilateral and multilateral treaties with different countries that have consequentiality presence in textile manufacturing.

- **India’s strong manufacturing competitiveness leading to import substitution:** India is a cost competitive manufacturing base for all types of products across the textile value chain.

In 2020, Government of India announced Production Linked Incentive (PLI) Schemes for 13 key sectors for USD 26 Bn which will further boost the manufacturing ecosystem of the country providing the much needed impetus to tap the USD 2 Bn import substitution opportunity. It is estimated by BCG that 75 per cent of textile machinery in India is imported. As per the TMMA\(^\text{16}\), following are the key textile machinery technologies in which the imports were reported to be the highest, and there exists a possibility of substituting these imports with indigenous technology:

- **Spinning Machine [Spinning](Auto-winders/ Auto-coners)**
  - Exported by Germany, Japan, Italy.

- **Weaving Looms [Weaving] (Rapier, Airjet, & Waterjet)**
  - Exported by Belgium, Italy, Japan, China.

- **Knitting Machines [Garmenting] (High Speed Circular & Warp Knitting)**
  - Exported by Germany, Korea, Taiwan, Japan, China.

- **Embroidery Machines [Garmenting] (Horizontal & Multi-heads)**
  - Exported by Germany, Switzerland, Japan, China.

- **Processing Machines [Rotary Printing Machines] (Drying, Dyeing & Bleaching)**
  - Exported by Switzerland, China, Germany, Italy.

\(^{16}\) TMMA 60th Report.
Key Success Stories

This section highlights the growth stories of major companies operating in the textile engineering industry in India.

Introduction:
Founded in 1939 in India, A.T.E. is an engineering group operating in textile engineering; cooling and heating; wastewater treatment; flow technology; value-added equipment for textiles, packaging, etc.; and industrial IoT.

Success Story:
A.T.E. has partnered with 50+ global leaders in textile engineering to offer hi-tech solutions across the textile value chain.

In the textile engineering domain it comprises of a fully owned state-of-the-art facility for manufacturing precision spinning machinery components, under the brand ‘Tera Spin’, Joint Ventures (JV) that include Truetzschler India, a JV with Trützschler, Germany, to manufacture spinning preparatory machinery, and Karl Mayer Textile Machinery India, a JV among Karl Mayer, Rabatex Industries and A.T.E., to manufacture warp preparation machines and creels for the Indian market.

India has a strong domestic market for textiles of all sorts and is also a global sourcing hub for many products. The Indian textile industry is quite resilient and will bounce back once the Covid-19 led disruptions are behind us. Conventional textiles apart, technical textiles are expected to get a major fillip with support from the government and also driven by the demand created for PPE kits, etc. There will, therefore, be sustained demand for textile machines in India.

Mr Anuj Bhagwati
Managing Director
A.T.E. Enterprises
Introduction:
The Camozzi Group is structured as an ecosystem of companies operating across a range of sectors. Its divisions produce pneumatic components, textile spinning machines, precision mechanical and hydrostatic machine tools, as well as advanced machines to produce parts and large structures made of titanium.

Success Story:
The story of Marzoli is the story of the Italian textile machinery sector itself. Being established and growing within one of the most important textile districts in Europe, during its 170 years in business, Marzoli has accrued numerous partnerships with the most important fabric creators, which have allowed the company to develop unique skills for the fine-tuning of innovative solutions exported all over the world as a model of production efficiency, flexibility, and quality. This has allowed Marzoli to become one of the leading manufacturers in Europe of complete lines for opening, preparing, and spinning natural, synthetic, and technical fibres. The mission of Marzoli derives from this consolidated expertise: being a solution provider by leveraging technical and technological know-how that is unique in the world.

"Become one of the five top players worldwide and the reference point for the Italian manufacturing industries developing, producing and servicing components and systems for the automation of the production processes!"

Mr. Lodovico Camozzi
Chairman and CEO
Camozzi Group
Introduction:
Dilo group is a well known name for machinery for the production of various types of nonwovens. our product line is consisting of fibre opening and blending, carding, cross lapping, needle punching machines and, together with partner companies, further process machinery like spunlacing, thermobonding, calendaring, chemical bonding etc.

Why India?
As a technology leader in non-woven industry, we have always been very close to our customers and we have started establishing our subsidiaries in countries like USA, China, Russia, Turkey step by step and recently in 2018 we have reached India as well. The very reason for us to be present in India is its promising potential, a huge population base, which eventually would be the consumer base for all kind of nonwovens in days to come. India is all set to grow in this segment.

Success Story:
Since many years, we have been very active in the Indian market and now since the inception of Dilo India Pvt. Ltd in 2018, we have an enhanced reach to our customers and entire non-woven industry. Our focus is now to strengthen our presence in high technology segments and we have been quite successful in this. Through our state-of-the-art machinery set up, our customers are enjoying a leadership position in their respective domains like geotextiles, filtration, automotive and so on. With our collaborations, we are now eying a strong foothold in health and hygiene segment as well.

“India has been a very important manufacturing hub for various technologies and is already a well-recognized destination by several manufacturers from across the globe. We are seeing good opportunities for the growth of textile machinery industry in India, a reasonable market size is influential in maintaining the scale of economies. We are closely monitoring the industry for all the possible opportunities.”

Mr Johann Philipp Dilo
Introduction:
Groz-Beckert is the world’s leading provider of industrial machine needles, precision parts and fine tools, as well as systems and services for the production and joining of textile fabrics and supporting the textile processes of knitting and warp knitting, weaving, felting, tufting, carding and sewing. The group employs around 9,000 people worldwide and turned over about ~USD 722 Mn in 2020.

Why India?
We have to go back to the year 1959 when Groz-Beckert established a joint venture company in Chandigarh, India and started a plant for production of knitting machine needles. As early as 1930, Groz-Beckert started exporting its products to India. The factory in Chandigarh was Groz-Beckert’s first investment in an overseas production facility and in an Asian country, and for sure, the journey was quite an adventurous one!

A look back in history shows that Groz-Beckert was one of the first German based companies to invest in a large-scale production in India and in 2020, the company celebrated its remarkable 60th anniversary of manufacturing in India.

Success Story:
From ‘Make-in-India-for-India’ to ‘Make-in-India-for-the World’
Today products made by the company in India exceed the highest quality standards in our industry. As a result, our current export rate is almost 70 per cent. From the company’s exports to Groz-Beckert logistic hubs in Germany and Singapore, we even export to China!

The basis for sustaining highest product quality for local market and export is the continuous training of our employees. We utilize world-class technology to produce in Chandigarh ‘Groz-Beckert quality’ for our customers worldwide!

Stefan Leser,
Groz-Beckert Asia
Managing Director
Introduction:
Based in Surat and Vadodara, Palod Himson Machines Pvt. Ltd has the following product lines:
- yarn processing range: twisting machines and winding machines
- hot air stenters
- gear metering pumps
- weaving accessories
- viscose spinning machines

Success Story:
Having a diverse range of products, the company has been actively establishing international collaborations with Earnest Scragg Ltd, UK for manufacturing draw texturizing machines since 1978, Fadis Spa, Italy for precision cone winders in 1984, Teijin Seiki Co Ltd, Japan for draw twisting machines and for high-speed high temperature DTY machines. Not only the company has established a solid domestic consumer base with Welspun, Alok Industries, Aditya Birla, SRF, Vardhman, Reliance but also exports their products to China, Bangladesh, Egypt, UAE, Russia.

"Founded in 1926, the company has come a long way in establishing its niche in the textile engineering market in India. India is an exciting place to do business in this segment."

Pratik Bachkaniwala
Managing Director
Introduction:
InspirOn Engineering, established in the year 1973, is the world’s largest manufacturer of high-performance aluminum flyers having, so far, manufactured and sold over 4.5 Mn of these critical textile components globally.

Success Story:
We are the single largest manufacturer and exporter of aluminium alloy flyer under brand name of “InspirOn Flyer” to Original Equipment Manufacturers (OEMs) across the world. InspirOn Flyer enjoys lions’ share in European OEM market, select Chinese OEMs and have wide presence in Indian and Southeast Asian end-users.

“From the very inception stage, we are wedded to views on Made in India and are aligned to the philosophy of recent directive from government to become “Atma Nirbhar”. This is evident as our product on its launch has virtually stopped import of flyers since 1975. For Stenter, through continuous efforts made in our government approved R&D centre and by hard work of a team of high calibre professionals, we have developed energy efficient system in Stenter machine which saves 15 per cent energy compared to best available machines from Europe. This design is patented in developed countries like Germany, USA, Spain, Turkey etc. More than 70 per cent of our non-ferrous castings are being exported to leading engineering multinational companies like Siemens, ABB, Air Liquid etc.”

Prakash Bhagwati
Chairman
Introduction:
Kirloskar Toyota Textile Machinery Pvt Ltd. started its operation in 1995. Toyota Industries Corporation, Japan and Kirloskar Co. Ltd. India, joined their hands to start the manufacturing of technologically superior ring frames in India. The state-of-the-art manufacturing facility located in Bengaluru is producing Toyota Ring Frame Model- RX-300 for global supply. From its inception, more than 6 Mn spindles are supplied to various happy customers across the world.

"We feel the current pandemic time is about to end soon and quick revival is round the corner for the industry. There will be demand for all engineering products with more advancement of technology.

The need for smarter, faster and low on power machines will increase and we should be ready to serve these requirements in quick time by focusing on our R&D and manufacturing capabilities.

We at Kirloskar Toyota Textile Machinery Pvt Ltd. believe that with our deep driven value system and committed human resources we are more than equipped to manage the situation efficiently."

Hisahiro Koketsu  
Managing Director

T R Nagaraj  
Director
Introduction:
Based in Bamangam, Vadodara, Kusters Calico Machinery Pvt. Ltd has the following product lines:
- textile wet processing continuous lines
- coating & lamination machines

Success Story:
Jagenberg AG holds 100 per cent controlling stake in Kusters Calico. Company has installed around 500+ machines in various countries worldwide. The company is spread over 42 acres of land and has a covered area of almost 125,000 square feet. Company has full-fledged design office and a modern in-house CNC machine shop, fabrication shop, glass blasting, painting, electrical panel wiring and assembly facilities to have better control over delivery and quality. “S-Roll” technology from Kusters is well known worldwide. We currently export around 70-80 per cent of textile machinery production. Company is also designing and manufacturing coating and laminating machines for converting industry.

Affordable Excellence - we aim to give the best machines and technology at competitive prices to our customers worldwide.

Sushil Verma
Managing Director
Introduction:
Lakshmi Card Clothing is a global leader in providing complete card room solutions. Since its inception in 1960, LCC continued to maintain its market leadership with a wide range of products that is uniquely developed through innovation and commitment.

Success Story:
LCC has always led the market globally with the power of technology to deliver world-class carding accessories. Over the years, the company displayed its courage and strength to withstand challenges amidst the growing market. Like a true leader, LCC reinforces its market visibility with cutting-edge solutions in card room technology. LCC has always been focused on long-standing relationships that enabled the company to interact with global leaders to bring a unique perspective to product development and functionality. The company vision to entrust a global credibility reinstates the quality of a leader who flaunts the guts to fly through the storm. LCC believes in promoting the values of integrity and ingenuity and embraces them to create a unique culture within the organization.

LCC inherits the true attributes of leadership from the renowned Lakshmi Group of Companies. Headquartered strategically in the textile hub of India, Coimbatore, LCC uniquely positions the capabilities of the company in discerning markets across the world. Its global stature has earned LCC the ISO 9001:2015 certification endorsed by TUV NORD, Germany.

S. Harishankar
Joint Managing Director
Introduction:
Lakshmi Machine Works Ltd. founded in 1962 is a manufacturer of an entire range of Textile Spinning Machinery to cater to the needs of the both domestic and global Spinning Industry.

For the past six decades, LMW has worked towards developing advanced systems, machinery and technological components which suit natural, man made and blended raw materials used to produce yarns.

LMW has expanded and established its wholly owned subsidiary in China; LMW Textile Machinery (Suzhou) Company Limited to fulfill the needs of the dynamic Chinese segment. The company has a well-established presence in India and also exports its products across the world.

The Company also diversified into CNC Machine Tools and is one of the leading manufacturers of customized products. LMW’s foundry makes Precision Castings that cater to diverse industries.

In order to explore the new business opportunities available in the Aerospace sector, a new division called the Advanced Technology Centre has also been established.

Success Story:
LMW goes beyond just providing machinery for the Textile industry. The comprehensive range of spinning systems that we offer is accompanied by various value-added services.

These services are meant to familiarize customers with the systems and help them attain optimum performance outputs. LMW has supplied over 50 Million spindles worldwide and has a production capacity of 4 Million spindles /annum and over 75% of yarn produced in India is from LMW machines.

Backed by a strong after-sales-service and an ongoing training programme, LMW provides solutions and today is the benchmark for quality, service, training and total customer satisfaction.

LMW products are well accepted by top class spinners of India, China, Vietnam, Indonesia, Bangladesh, Turkey & various other countries worldwide.

“LMW has been focusing its efforts to take the Indian spinning industry forward, on a modernization journey. Over the years, LMW has been constantly designing and delivering its line of products focused on product innovation, automation, digitization and sustainability to address the key challenges and made India as one of the strongest provider of textile value chain to the world.”

Sanjay Jayavarthanavelu
Chairman and Managing Director
Introduction:
Based in Surat, Gujarat, Meera Industries Ltd. has the following product lines:

- **Twisting Machines**
  - Two For One Twister
  - TPRS Twister
  - Cabler / Twister
  - Ring Twister

- **Winding Machines**
  - Drum Winder
  - Precision Winder

- **Continuous Heat Setting machine**

Success Story:
Incorporated in 2006, Meera Industries Limited has been thriving on the principals of futuristic authentic innovation in the field of twisting technology. The journey started with a phenomenal success of small pot two for one twister for filament and spun yarns. Within a very small time we have been able to install more than half a million spindles.

From there on, we kept on adding new models touching upon mostly all the segments of textile industry which were never produced in India. The list includes twisting machines for carpets, fishing net, technical textiles, belting, ropes, twines etc.

Some of our most unique and successful products are continuous heat setting and bulking machine and TPRS technology (one step ply and cable yarn twisting, patent pending). Exporting to more than 26 countries, our design and technology has been approved and endorsed by some of the leading names in the industries in India and abroad.

Capital Goods and raw materials are an integral part to cost competitiveness for any manufacturing industry. Too much dependency of these on imports not only curtails the total growth potential but also hinders the innovation streak of the industry. Indian textile industry for a long time has been depending upon imported twisting machines for a variety of segments. We believe that availability of locally made superior quality machines can be a big booster for the growth of Indian textile industry. We have a vision to give an alternative superior quality twisting machine with much less price comparable to European brands to gradually reduce our dependence on them.

Dharmesh Desai  
CMD
Introduction:
As the brand “Menzel” inches to a century in business in Germany & 15 years in India, a combined team experience of over 300 years in the field of Textile Machineries, both conventional and Technical Textiles. It is noteworthy that the Directors of Karl Menzel Maschinen Fabrik GMbH own 70% stake in this Indian Joint Venture, with Manufacturing Hubs in Vasai, Ahmedabad, Bhilad in India and Bielefeld in Germany. Menzel has the best repeat value and is amongst the most trusted brands in India today for Textile Wet Processing Machinery.

Success Story:
Leading the way in the segment of Wet Processing of fabrics in India with a lion’s share of the business. Through continuous innovation and remarkable ideas, our Indo-German Joint-Venture, has scaled heights due to the expertise & finesse of our team and the stakeholders. As a name synonymous with excellence in textiles & amongst the youngest organizations in business, in India, with the goodwill & patronage of our esteemed customers we continue to diligently move forward & inspire through our achievements & innovations. Demonstrating our love for the natural world by interpreting, designing & materializing our customers’ requirements into reliable & solid technologies resulting in a highly efficient & profitable production, with an aim to preserve and conserve that most precious resource of all – “Water”. Driving the country’s Make in India initiative with our little contribution, building, the brand “INDIA”, we now expand our presence in the field of Technical Textiles in India, a segment we have been catering successfully for years to the world, With Excellence and Expertise, Taking “India to the World.”

From its early inception in 2006 to where we are today, Menzel has created a niche of its own. Evident by the numbers Menzel has been able to generate over the last decade and half, with over 300 ranges successfully commissioned in India, ably supported by a team of brilliant who have vast and varied experience, be it in manufacturing, sales, customer support. With Businesses in the industry investing their trust in Menzel, we are about to begin a new chapter by foraying in the field of Technical Textiles, something that our German Stakeholders are catering to for decades.

Motto: Sochega Bharat, Badhega Bharat, Sab ko Saath Leke Chalega Bharat.

Harish Mehta
Managing Director
Introduction:
Rabatex Group of Industries is pioneer in manufacturing the state-of-the-art weaving preparation machines, material handling equipment and storage solutions for textile and non-textile industries. Established in 1962, the company is currently based out of Ahmedabad, Gujarat.

Success Story:
Rabatex Group of Industries pioneered in serving textile industries with top class products and relentless services, it has reached to new heights in the global market. Rabatex Group has not only developed new technology in warp sampling and technical textiles fields but also made JV agreements with Karl Mayer Group to make state-of-the-art warp preparation machines in Ahmedabad, India and with Alexander Giovanelli to manufacture and supply their electrically operated material handling equipment across the globe. Our newly developed VLM storage solutions added one more feather to the crown. We have more than 43 per cent repeat order which assures continual growth and dedicated after sale service and support to customers.

Rabatex is the family-owned company incepted in the year 1962. A good beginning imprinted the future. Rabatex is the most trusted brand in the textile industry not only in India but across the globe. I am actively involved in the entire operations which is enabling Rabatex to maximize the value of its products and service offerings.

Haresh Panchal
Managing Director
Introduction:
Stovec Industries Ltd is based at Ahmedabad and has the history of more than four decades. We are into two business segments – Capital goods and Consumables in textile printing industry. Capital goods includes rotary printing machines, laser engraving machines and digital printers. And consumables include rotary textile screens, digital inks, lacquers, and engraving chemicals.

We have one of the only state-of-the-art fully air-conditioned manufacturing facility in India, to ensure the highest quality of textile rotary screens.

Our parent company SPGPrints, The Netherlands is the global leading provider of integrated solutions for rotary screen printing in the textile, label and industrial markets and has a leading position in digital printing.

Success Story:
The company’s intensive R&D programs, combined with its focus on innovation and improvement, has enabled Stovec to become the leading Global Competence Center for Rotary printing in the SPGPrints The Netherlands Group. Stovec is seen as a key international player in the industry and export to clients in all major textile printing markets.

We developed several new products in our portfolio by anticipating future market trends”. We have developed the semi-automatic and fully automatic rotary printing machine which opened new markets in India and abroad. These are the ideal machines due to their improved price-performance ratio, and, combined with the service and stability of Stovec professionals - makes it a perfect solution for high-quality and reliable printing.

In the field of textile printing, innovation is key to maximize potential, stay ahead and exceed customer’s expectations. That’s why we continuously strive to upgrade our technologies to suit the most varying demands of future. We have continuously innovated. The vision of company is continuing to be the undisputed global market leader for rotary screen printing and digital printing.

Mr. Shailesh Wani
Managing Director
**Introduction:**

Trützschler is a German textile machinery manufacturer. The company manufactures machines and installations for the spinning and nonwovens industry.

**Why India?**

Truetzschler was looking for a dependable partner for its Indian operations and A.T.E. Enterprises had the license to manufacture blow-room machines. So, they formed a joint venture. Trützschler’s Indian subsidiary formerly known as “Trumac” was established in 1977 in Ahmedabad, India. After much activity in the interim time, it was in 2009 that a transition began with supply of Truetzschler series of machines to the Indian market under the brand name of “Truetzschler”. These cutting-edge machines ensured that products and services were of the global level. Today, Truetzschler India Private Limited is not only the place where machines of international quality are produced, but also project planning, sales and nation-wide service are taken care. Truetzschler India’s plants have been upgraded with extensive investments in building, machines and process in order to align itself with Truetzschler’s “Global Production Strategy”.

**Success Story:**

Trust is a word synonymous with Truetzschler. The reason Truetzschler is so trusted is because its products have longevity. The “Customer First” philosophy has always been the major driving force to attain the trust. At Truetzschler, since inception, research and development matter the most and feedback from customers are given utmost importance. As a result, the company has been able to give innovative technology and feature packed machines to the textile industry. This is the reason Truetzschler has been able to maintain its top position in the spinning preparatory market for the last four decades in India.

> Trützschler aimed to support Indian textile industry with leading technology and Trützschler quality, which is on level with Trützschler plants in Europe. To do so Trützschler requests to build up a modern plant with all prerequisites for future working in workshops and offices. Trützschler India´s new plant shall motivate over 1,000 staff members and managers to spend their utmost efforts for customers satisfaction with regard to leading products and services.

Dr Dirk Burger
Introduction:
Based in Surat, Gujarat, Weavetech Engineers Ltd produces a range of twisting, winding, warping, sizing and weaving machineries.

Success Story:
Having quite innovative and surprisingly cost-effective solutions in twisting & weaving, Weavetech has become the de facto choice for leading Indian companies with global ambitions. It is no surprise that Weavetech commands one of the largest market shares in the country among its products.

Since 1980s, Weavetech has been at the forefront of indigenous technology development in the field of twisting and weaving machineries leading R&D efforts specific to answer to the growing needs of a developing market like India. Leveraging on core competencies in R&D, Weavetech offers a portfolio of products and solutions that have proved to be highly cost-effective and offers the best value to the textile industry.

During its journey to becoming India’s largest manufacturer of twisting and weaving machineries, Weavetech has touched many milestones – be it developing a new product or achieving the largest market share; Weavetech has distinguished itself with several superlative performances, including many patented technologies and many firsts for the Indian market.

"Weavetech is one of India’s topmost twisting, winding & weaving machinery makers with a global reach. Weavetech is the embodiment of a promise - Best Value is here."

Vallabha S. Thumar
CMD
Introduction:
Yamuna established in 1990, and over the years it has grown from a single product (flagship - stenter) manufacturing to complete range of processing and finishing machines. It has history of success stories in developing finishing machines for denims, coating lines and special machines for technical textiles. With Yamuna's indigenously developed denim finishing ranges, has made it possible for Indian denim makers to scale up their productions, making India self-sufficient in this industry. Special coating lines for technical textiles and geo grids have also been developed to cater the needs of the industry which were in past out of reach for MSME units. Customer has appreciated Yamuna’s proactive approach and has placed repeated orders.

Success Story:
Our company believes in customer eccentric approach and after sales service has been one of the key factors in getting repeat orders from the customer as well as in creating a long history of successful installations. Innovation and constantly upgrading the machines to meet the changing demands of the industry followed by good after sales service is the key for consistent growth in manufacturing industry.

"TEI of India has a very bright and optimistic future with ample of opportunities coming in from domestic demands as well as exports of machinery. To be able to achieve this, the TEI needs to strengthen its manufacturing capacities especially in component manufacturing and specialised vendor developments dedicated for TEI. The value chain within the TEI needs to be complete and self-sustained with indigenous manufacturing of critical components."

Prashant Mangukia
Key Government Schemes and Initiatives

The ‘Make in India’ initiative was launched in 2014 as part of a wider set of nation-building initiatives, which were devised to transform India into a global design and manufacturing hub. Many schemes relevant to the TEI were born out of this initiative. The pertinent ones are listed below.

Export Promotion Capital Goods Scheme

Capital goods help produce quality goods and services and enhance India’s manufacturing competitiveness. To promote this, the Central Government implemented the Export Promotion Capital Goods Scheme under the Foreign Trade Policy. Under the Scheme, EPCG Authorizations are issued with actual user condition and import validity of 24 months to import capital goods (except those specified in negative list) for pre-production, production, and post-production at zero customs duty. This is subject to fulfilment of specific export obligations equivalent to 6 times of duties, taxes, and cess saved on capital goods, and is to be fulfilled in 6 years from date of issue of authorization. It helps domestic manufacturers import machineries into their factory from a foreign country, while at the same time ensuring that the country earns foreign exchange through exports.

There is also an exemption of 100 per cent import duty amount while importing such machineries, as long as the importer of capital goods is not availing any benefits under Technology Upgradation Fund Scheme (TUFS) administered by the Ministry of Textiles.

Amended Technology Upgradation Fund Scheme

The Amended Technology Upgradation Fund Scheme operates on the two mottos of ‘Make in India’ and ‘Zero Defect and Zero Effect’, where the government provides credit linked capital investment subsidy. It facilitates augmenting of investment, productivity, quality, employment, exports, and import substitution in the textile industry. It also promotes investment in textile machinery manufacturing. The goal is to provide encouragement to textile industrial units to modernize and upgrade their production facilities.

This scheme is in operation until 31st March, 2022.

TUFS benefit is available for benchmarked machinery covering the following activities;

• Silk reeling and twisting.
• Wool scouring, combing and carpet industry.
• Synthetic filament yarn texturizing, crimping and twisting.
• Weaving, knitting and fabric embroidery.
• Technical textiles including non-woven.
• Garment/design studio/made-up manufacturing.
• Processing of fibers, yarns, fabrics, garments and made-ups.
• Production activities of Jute Industry.

17. https://www.makeinindia.com/about [Make in India]
18. https://www.dgft.gov.in/CP/?opt=epcg [Director General of Foreign Trade]
Capital Goods Scheme\textsuperscript{20}

The Department of Heavy Industries in the Ministry of Heavy Industries and Public Enterprises is the parent ministry responsible for the growth and development of the machine tool industry in India. The DHI Capital Goods Scheme is a pilot scheme designed to support the industry to modernize domestic technologies.

Two technologies are covered.
\begin{itemize}
  \item For those technologies which are commercially not available for transfer, indigenous development at domestic institutions is headed by a consortium of technology seekers who grant support of up to 80 per cent of the cost of development, subject to maximum of USD 13 Mn per case within a budget of USD 33 Mn.
  \item For technologies which are commercially available and can be acquired by a company or a group of companies, the scheme provides grant support up to 25 per cent of the technology acquisition costs or USD 1.42 Mn, whichever is less, within a budget of USD 6.6 Mn.
\end{itemize}

Technology Acquisition Fund Programme\textsuperscript{21}

Funding is provided to explore opportunities for accelerated technology upgradation through acquiring technologies for specific projects and activities. Government grant is limited to 25 per cent of the cost of technology acquisition and the amount shall not exceed USD 1.42 Mn per technology.

National Capital Goods Policy 2016

The National Capital Goods Policy is a manufacturing sector policy devised by the Government of India aimed at increasing the production of capital goods from the 2014-15 value of approximately USD 31 Bn to USD 101 Bn by 2025. Another stated aim is to increase the employment to ~30 Mn people.

Centres of Excellence (CoE)

Under the Enhancement of Global Competitiveness of Indian Capital Goods Sector, certain proposals were approved. For textile machinery, the CoE at Central Manufacturing Technology Institute (CMTI), Bengaluru was established for development of shuttle less rapier looms of 450 Revolution Per Minute (RPM), with the aim of dealing with import substitution.

Similarly, CEFC at Bardoli, Surat was initiated by Science Engineering and Technological Upliftment (SETU) Foundation, and will have a design center, tool room, training center, and testing lab to cater to the requirements of textile engineering industry.

In Delhi, CoE at IIT-Delhi was established to focus on product development, especially with specified industry partners.

Indian Electrical Equipment Industry Mission Plan 2012–2022 \textsuperscript{22}

Vision 2022 for the Indian electrical equipment industry is to make India the country of choice for the production of electrical equipment and reach an output of USD 100 Bn by balancing exports and imports. Detailed recommendations have been formulated for strategic and policy interventions in five critical areas that need to be addressed by the industry with support from the government; industry competitiveness, technology upgradation, skills development, exports, and conversion of latent demand.

\textsuperscript{20} \url{https://www.startupindia.gov.in/content/sih/en/government-schemes/amended_technology_upgradation_fund_scheme.html} [Startup India]
\textsuperscript{21} \url{https://dhi.nic.in/writereaddata/Schemeper cent20Brochure.pdf} [CoE]
\textsuperscript{22} \url{https://dhi.nic.in/writereaddata/Content/indian_mission_plan_2012-2022.pdf} [Department of Heavy Industries]
Central Manufacturing Technology Institute²⁴

CMTI in association with Textile Machinery Manufacturers’ Consortium (TMMC) and TMMA had undertaken the development of advanced technologies for high-speed shuttle-less looms under Department of Heavy Industries’ (DHI’) ‘Scheme for enhancement of global competitiveness of Indian Capital Goods sector’ in April 2015. Five Indian loom manufacturers consortium has developed a ‘Hi Speed Shuttle-less Rapier Loom’ at CMTI, Bengaluru. The indigenously developed loom has undergone extensive in-house weaving trials and has been demonstrated to members and industry partners. The trial runs of the machine at the industry end have been completed successfully.

Textiles Committee, Ministry of Textiles²⁵

The Textiles Committee is the statutory body for ensuring the quality of textiles and textile machinery. The role of the Textiles Committee is to provide services for industrial machinery related to marketing, statistics, research, promotion, and quality testing. In the annual report published by the Textile Committee in December 2020, it was recommended that more synergy is required with the Textile Commissioner’s Office, especially at the local level.

Capital Goods Sector Skill Council²⁶

DHI and Federation of Indian Chambers of Commerce & Industry (FICCI) launched a Capital Goods Sector Skill Council in 2013 under the aegis of National Skill Development Council (NSDC), New Delhi. The objective was to develop skills of a new generation of workers which would match the expectations of the industry. In this regard, sector-wise skill councils were formed at the national level. They re-analyzed direct employment numbers, focused on upskilling of existing employees and apprenticeship, as well as aggregating placement data.

Custom Bonded Warehouse Scheme²⁷

The Central Board of Indirect Taxes (CBIC) is allowing import of raw materials and capital goods without payment of duty for manufacturing and other operations in a bonded manufacturing facility. When the raw materials or capital goods are imported, the import duty on them is deferred. If these imported inputs are utilized for exports, the deferred duty is exempted. Only when the finished goods are cleared to the domestic market, import duty is to be paid on the imported raw materials used in the production. Import duty on capital goods is to be paid if and when they are cleared to the domestic market.
COVID19 has impacted the textile machinery sector in myriad ways. On one hand, revenue of various textile machinery manufacturers went down but on the other hand, companies realized the importance of automation and digitalization. Small textile units mostly rely on manual operation. Due to the pandemic and the lockdown, migrant labourers had moved back to their native places and were less likely to return soon to work. Automation helps countries where the cost of labor is high, stay competitive on a global scale, helps developing countries to achieve economies of scale and achieve global manufacturing standards. Challenges on the availability of containers and high shipping costs have been impacting profitability since Q3 Financial Year (FY) 2021 and are likely to remain so in the near term.

The International Textile Manufacturers Federation (ITMF) surveys reveals that most companies have the intention to invest in the following years. Their main reasons to do it are to increase levels of automation and productivity, adding capacity, and reducing energy consumption.

**Graph 12: What are your reasons to invest in 2021/2022?**

- Increase level of automation/productivity: 31%
- Adding capacity: 19%
- Reducing energy consumption: 16%
- Replacing capacity: 12%
- Reducing Green House Gas emissions: 9%
- Reducing water consumption: 8%
- Other (please specify): 6%

Source: 7th ITMF Corona-Survey (January 20th - March 10th, 2021)
Overview of impact of the pandemic on Global Trade in Textile Machinery

In analysis by the ITMF, the following was noted:

• In 2019, global shipments of spinning, texturing, weaving, knitting, and finishing machines decreased on average compared to 2018.
• Deliveries of new short-staple spindles, open-end rotors, and long-staple spindles dropped by 20 per cent, 20 per cent, and 66 per cent, respectively.

• The number of shipped draw-texturing spindles declined by 4.5 per cent and deliveries of shuttle-less looms shrunk by 0.5 per cent.
• Shipments of large circular machines contracted by 1.2 per cent, while shipped flat knitting machines fell by 40 per cent.
• The sum of deliveries in the finishing segment also dropped by 2 per cent on average.

The impact of the COVID19 pandemic on the global textile value chain can be seen below:

Turnover 2020 impacted by the Corona-pandemic per region (versus 2019)

-10%  -20%  -30%  -40%  -50%

East Asia  South East Asia  South Asia  Europe (incl. Turkey)  Africa  South America  North America  World


The 2019 survey has been compiled in cooperation with more than 200 textile machinery manufacturers representing a comprehensive measure of world production.

29. 1st till 6th ITMF Corona-Surveys [March 13, 2020 to December 14, 2020]

Between November 20th and December 14th, 2020, ITMF has conducted its 6th ITMF Corona-Survey among ITMF members and affiliated companies and associations about the impact the Corona-pandemic has on the global textile value chain. In total, 159 companies from around the world participated.
The expected turnover in 2020 is down on average by 12 per cent when compared to 2019. While medium and long-term turnover expectations have not changed significantly, the industry hopes to recover the losses incurred in 2020 by the end of 2022.

The graph below shows the expected turnover to increase by 18 per cent until 2024, as compared to 2019.

### Global Economic Slowdown

The economic slowdown in major economies has adversely affected the manufacturing of textiles and clothing. The figures presented by the World Trade Organization (WTO) have reported that exports stagnated in 2019. This has consequently affected the TEI. Domestic production [not including exports] has been declining since 2015. Imports of textile machinery [not including parts imported by machinery manufacturers] took a downward plunge in 2020 after years of steady growth. Total domestic demand declined in response to the COVID19 pandemic.

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**What is your company’s expected turnover from 2020 to 2024 compared to 2019 (regional average)?**

<table>
<thead>
<tr>
<th>Region</th>
<th>2020</th>
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<th>2022</th>
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<td>-9%</td>
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<td></td>
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<td>-5%</td>
</tr>
<tr>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Europe (incl. Turkey)</td>
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<td>South America</td>
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<tr>
<td>North America</td>
<td>-12%</td>
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</tbody>
</table>

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30. 6th ITMF Corona-Survey. (November 20 - December 14, 2020)
Global turnover of the textile industry is expected to increase by more than 17 per cent on average until 2024, compared to 2019. By the end of Q4 of FY 2021, 31 per cent of the companies would have reached their pre-crisis turnover levels, and another 47 per cent of the companies would be expected to recover during this 2021.

Following levers will drive India’s growth in this sector:

- **Technology Upgradation:** Indian textile machinery sector is at a nascent stage and R&D investments will play a crucial role for the growth of this sector. Substantial amount of investments in R&D is required for upgradation of the industry in a big way. This also opens up the possibility of attracting Foreign Direct Investment (FDI) for the country wherein domestic companies can do technology partnerships with foreign companies.

- **Component ecosystem:** India has already made a mark in the Indian components industry and is striving to grow to reduce its dependence on foreign imports of certain key components. The upcoming PLI scheme for auto and auto components will lead to development of components ecosystem in the country. Once auto components’ suppliers have developed scale and capacity in line with global level, these suppliers will be able to cater to other sectors as well. Moreover, better serviceability and availability of spare parts will lead to a better textile machine manufacturing industry and increase the market size for these machines.

- **Innovation:** Upcoming focus on textile clusters with increasing demand for technical textiles and man-made fiber will lead to further innovation for textile machinery manufacturers. Moreover, innovation in industry coupled with smart manufacturing techniques using Artificial Intelligence (AI) and Internet of Things will enhance the overall efficiency of the textile industry.

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Artificial Intelligence (AI) and Internet of Things (IoT) will change the face of textile engineering industry in India. Several foreign companies are already upgrading their facilities in line with Industry 4.0, and this is sure to spill over benefits to India which is integral to the global supply chain.

• Changing trends in the industry: Earlier, several textile manufacturers preferred to purchase secondhand machinery to supplant their old machinery as it is accessible at lower prices. But now with increasing quality consciousness and increasing share in the organized sector, demand for new machinery is increasing in India. The vendor base for spares and technology components for modern machines is also growing in India.

### Industry Recommendations and Actions taken by the Government:

#### 1. Promote Clusters of Machine Manufacturing with Special Benefits

- Establish and promote zones/clusters/mega textile park within India for textile machine manufacturing having extensive R&D labs.
- The zones/clusters/park should have state-of-the-art support infrastructure, developed land, uninterrupted power supply and other utilities for manufacturing and training centers for skilled manpower.

**Action:** DHI has a scheme on “Enhancement Competitiveness in the Indian Capital Goods sector” with a goal of making the domestic capital goods sector globally competitive. This scheme has a component of Integrated Industrial Infrastructure Center (IIIC) to make machine tool sector more competitive. In this regard, Tumakuru Machine Tool Park (TMTP) as a Special Purpose Vehicle (SPV) of GoI and Government of Karnataka has been announced. This is planned on 530 acres of Karnataka Industrial Area Development Board (KIADB) land with a view to attract investments in the machine tools sector under the Scheme of Enhancement of Competitiveness in Indian capital goods sector.

#### 2. Fiscal Support from the Government to emerge out of the COVID19 situation:

- Fiscal support from the government can provide the needed impetus for growth in the sector.
- Provide soft loans to the industry for both short-term and long-term financing needs with a maximum interest rate of 4 per cent
- Some of the other temporary relief measures suggested by the industry are drawback for improved margins /negate losses for exporters and Export Credit Guarantee Corporation (ECGC) and third party insurance cover for all machine exports.

**Action:** To ensure welfare of the industry, Cabinet approved USD 85 Bn crore COVID19 relief package. Together with previously announced USD 12.5 Bn spending on providing free food grains to the poor till November and an additional USD 1.97 Bn fertiliser subsidy, the stimulus package, which is mostly made up of government guarantee to banks and microfinance institutions for loans they extend to COVID19-hit sectors, totalled up to USD 85 Bn.

#### 3. Marketing and Brand Promotion

- Brand building is one of the major concerns for Indian manufacturers when it comes to competing with German and Italian machines which have a strong brand value globally.

**Action:** Various Indian states offer subsidies to companies participating in exhibitions/promotional activities. For instance, Haryana has “market development assistance scheme for micro and small industries” wherein 75 per cent of total expenditure incurred towards space charges, shipment charges of exhibits, cost of product literature, display material subject to maximum up to
USD 6666 and air fare by economy class up to USD 1333 for maximum two persons will be reimbursed for participation in one international exhibition in a year.

4. Technical training and capacity building for testing facilities:
   • Make available training on key skills necessary to move from a subcontracting model to a full package model such as R&D, manufacturing of critical components etc.
   • Capacity building and partial funding of laboratory equipment for existing testing facilities (including in-house testing facilities in factories).

Action: Government is actively working to enhance infrastructure and knowledge framework at training institutions across the country. Various state heads have also directed Industrial Training Institutes (ITI) management to create a robust ecosystem enabling youth to get maximum skilling for employability. Under Skill India Mission, an effective and elaborate training framework has been implemented in India.

5. Logistics
   • Invest in transportation infrastructure and rapid customs clearance, inbound and outbound
   • Improve connectivity options for shipping / air freight to better the lead times. All ports need to be mobilized. For instance, Chennai, Mumbai and Tuticorin are being used beyond their capacity and other ports like Vizag are under-used.
India’s developing logistics network

Robust logistics network to support global trade; USD 1.4 trillion being invested in next 5 years to reduce the logistics cost by 5-10%
Global Best Practice: Hong Kong Science and Technology Parks Corporation (HKSTP)

HKSTP, Hong Kong

- Established in 2002, HKSTP has cultivated successful Innovation and Technology (I&T) companies, formed strong local and international partnership networks and created a thriving community.
- There are 1,000 technology companies from more than 23 countries, more than 9,000 R&D practitioners, 770 graduates from the incubation programmes, and more than 200 awards received.
- They connect high-growth tech startups with investors and also invest through their direct investment arm. They facilitate market adoption of technology solutions so industries can stay competitive, and match and tailor startup solutions for the industry.
- They garner government support to give you the services and funding you need. They build the labs, manufacturing hubs and workspaces to help develop ground-breaking solutions, as well as an open innovation culture and entrepreneurial spirit.

Textile engineering industry in India holds a vast potential for growth. The presence of large global and domestic players has infused much growth and has helped build prominence of not only the textile machinery segment but also of the overall capital goods sector in the country.

With the government’s aim to create world class infrastructure in India, in addition to the implementation of several policies and schemes to boost the overall capital goods and textiles sector, all measures will be undertaken to make India a global leader in the textile manufacturing space.

The overall development of the infrastructure, coupled with the availability of skilled and low-cost labour, focus on R&D activities and strong manufacturing capabilities make India increasingly preferable as an attractive investment destination for this growing industry. Garnering direct attention from Prime Minister Narendra Modi and with a favorable policy ecosystem in place, India is already on its way to capitalize the fullest potential of textile engineering industry.

32. https://www.hkstp.org/
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