

KNOWLEDGE PAPER

INDIA IN GLOBAL TECHNICAL TEXTILES VALUE CHAIN: GROWTH, OPPORTUNITIES, AND CHALLENGES

FOR



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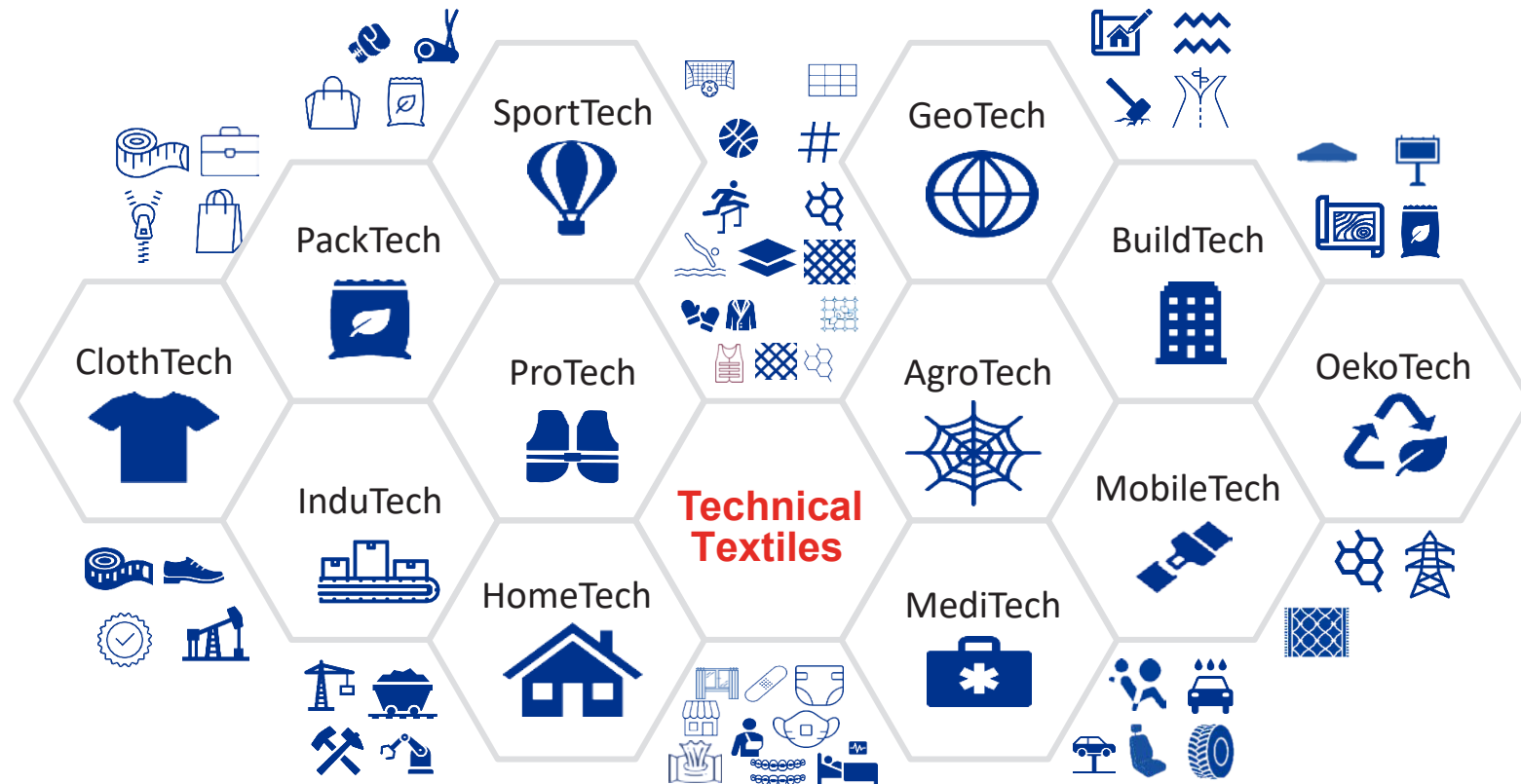


Defining Technical Textiles ▶▶

What are Technical Textiles?

- Technical Textiles are value-added textile products that provide added functionality and applications other than regular fiber-to-fashion supply chain products.
- These technical textiles encompasses high performance fibers, yarns, woven, knitted, nonwoven, braided and composite structures.

Classification Of Technical Textiles ▶▶



Source: India 2047 – Vision and strategic roadmap for technical textiles

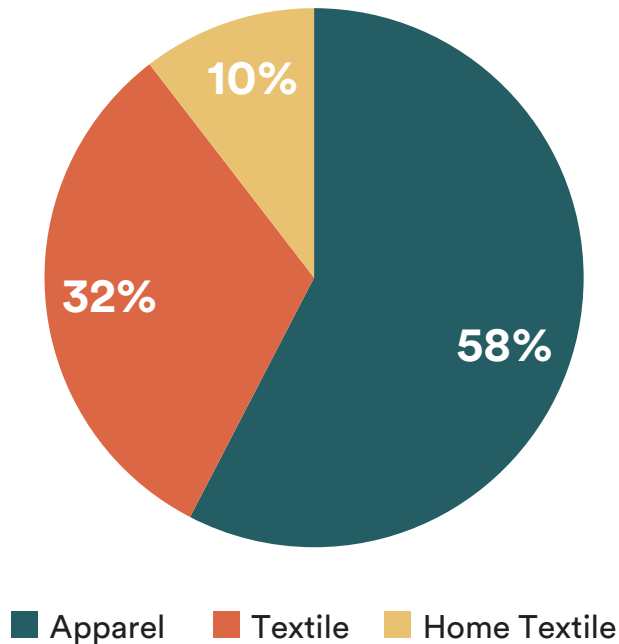
Main Applications of Technical Textiles ▶▶

Sectors	Main Applications
Agrotech	Bird protection nets, finishing nets, crop covers, mulch mats, shade nets
Buildtech	Floor & wall coverings, scaffolding nets, awnings & canopies
Clothtech	Interlinings, labels, elastic narrow fabrics, shoelaces
Geotech	Geo-composites, geo-bags, geogrids, geonets
Hometech	Blinds, mattress, pillow components, carpet backing cloth, mosquito nets
Indutech	Industrial brushes, composites, ropes, cordages, conveyor belts
Mobiltech	Tire-cord fabrics, Auto-upholstery, seat belts, insulation felts
Meditech	Industrial brushes, composites, ropes, cordages, conveyor belts
Oekotech	Waste management, environmental protection, re-cycling
Protech	Ballistic protective clothing, fire retardant apparel, high visibility clothing
Packtech	Wrapping fabric, jute sacks, tea bag filter paper, woven sacks
Sportech	Sports nets, sleeping bags, hot air balloons, parachute fabrics, sports composites

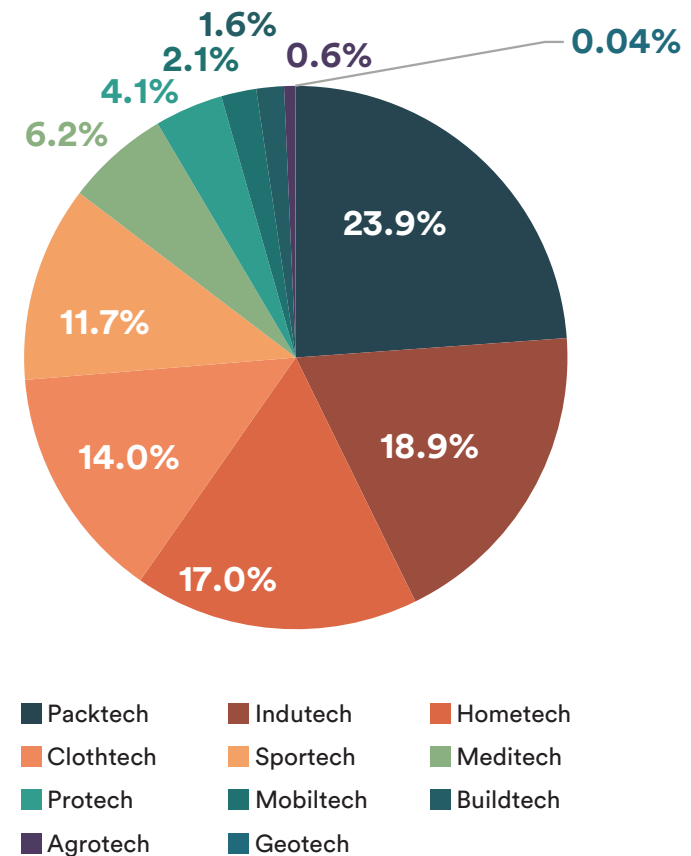
Global Technical Textiles Market Overview ▶▶

The global textile market including Technical Textiles stood at \$1,066 Billion, of which conventional textiles contributed 85% valuing at \$903 Billion and Technical Textiles stood at the remaining 15% share accounting to ~\$163 Billion.

Global T&A Exports 2022



Global TT Exports 2022



Global Technical Textiles Exports and CAGR ▶▶

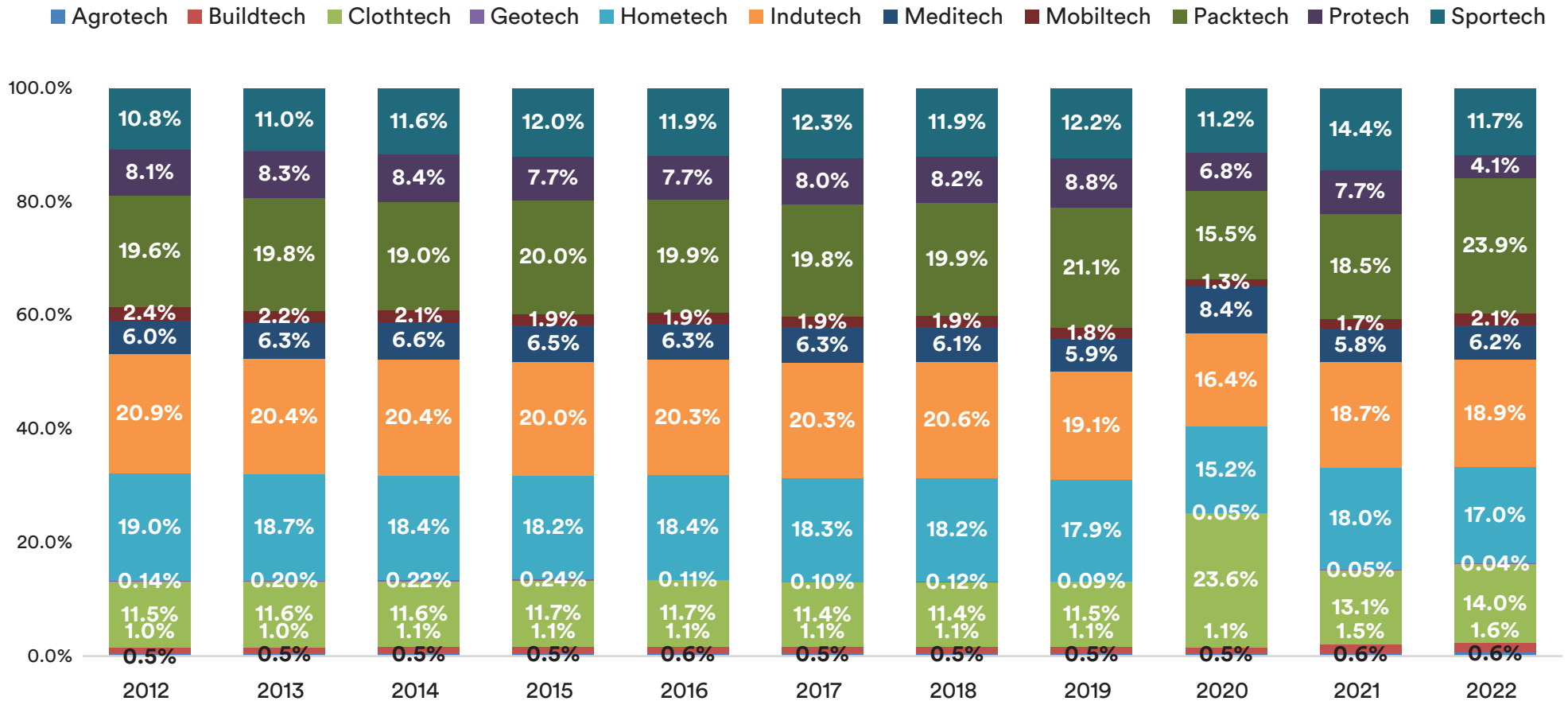
Global exports of Technical Textiles Segments In Million USD.

Segments	2016	2017	2018	2019	2020	2021	2022	CAGR 2012-22 (%)
Agrotech	377	345	388	400	548	551	522	7%
Buildtech	1400	1502	1693	1718	1787	2419	2316	5%
Clothtech	4033	4650	4776	4640	4107	5034	10574	10%
Geotech	401	413	487	500	505	717	755	7%
Homotech	9073	9138	9768	9437	8361	10400	9926	1%
Indutech	20671	21290	23240	22519	20405	26099	20815	1%
Meditech	6580	5922	6472	6411	6402	7156	7623	3%
Mobiltech	8131	8303	9151	8951	7432	9709	10466	3%
Packtech	25212	26593	28839	30327	24008	31461	39635	4%
Protech	5278	5889	6451	6439	6037	7097	5023	-1%
Sportech	8908	9481	10298	10253	9611	17072	15889	7%
Total	90065	93526	101563	101595	89205	117716	123543	4%

Source: F2F-Texpro, IHS Markit.

Global Trade for Technical Textiles since 2012 -2022 in Percentage ▶▶

Global Technical Textiles Exports



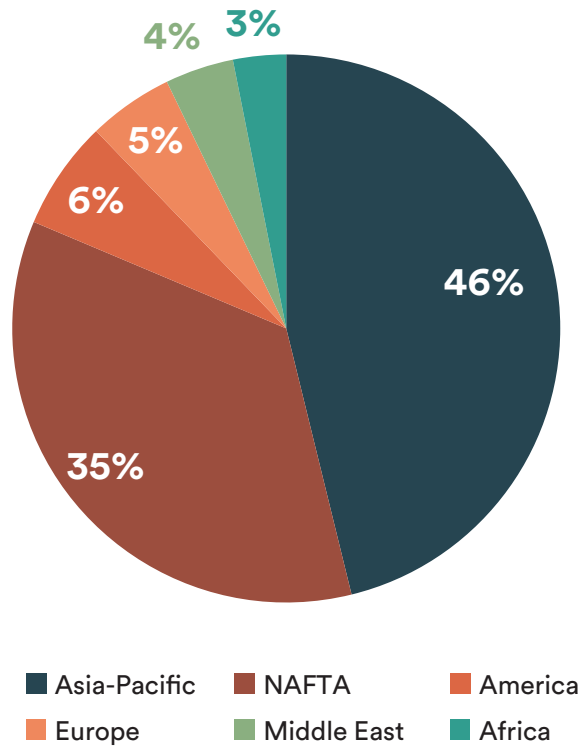
Application and Key Segments of Technical Textiles ▶▶

Segment	Application of Technical Textiles	Key Segments
Agrotech	Bird protection nets, finishing nets, crop covers, mulch mats, shade nets	Anti hail/ Anti bird nets, Crop Covers, Fishing nets, Mulch mats, Shade nets, Etc.
Buildtech	Floor & wall coverings, scaffolding nets, awnings & canopies	Architectural membranes, Hoardings & signages, Cotton canvas Tarpaulins, HDPE Tarpaulins, Awnings & canopies, Scaffolding nets
Clothtech	Interlinings, labels, elastic narrow fabrics, shoelaces	Shoelaces, Interlinings, Zip Fasteners, Elastic Narrow Fabrics, Velcro, Labels, Umbrella Cloth & Sewing Threads
Geotech	Geo-composites, geo-bags, geogrids, geonets	Geogrids, Geobags, Geostrips, Geo Composites, Geonets and Geotubes, Etc.
Homotech	Blinds, mattress, pillow components, carpet backing cloth, mosquito nets	Mattress and pillow components, Carpet backing Cloth, Stuff Toys, Blinds, HVAC Filters & Filter cloth
Indutech	Industrial brushes, composites, ropes, cordages, conveyor belts	Ropes and Cordages, Industrial webbing and slings, Industrial Filtration Products, Conveyor belts, Drive Belts, Coated Abrasives, Etc.
Mobiltech	Nylon tire cord fabrics, seat cover fabric/ upholstery, seat belts, insulation felts	Air Bags, Automotive Interior Carpets, Car Body Covers , Headliners, Helmets, Insulation felts, Seat belts, Seat Cover Fabrics, Sun visors, Tyre Cords, Etc.
Meditech	Industrial brushes, composites, ropes, cordages, conveyor belts	Diapers, Compression Garments, Dental Floss, Ear buds, Extra corporeal Devices, Medical Wipes, Orthopedic Implants, Sanitary Napkins, Surgical Disposables, Grafts.
Oekotech	Waste management, environmental protection, recycling	Environmental protection generally Geosynthetics.
Protech	Ballistic protective clothing, fire retardant apparel, high visibility clothing	Bullet Proof Jackets, Fire Retardant Fabrics, Electrical Clothes, High Altitude and Visibility Clothing, Industrial Gloves, High Altitude Tents , Chemical Suits , etc.
Packtech	Wrapping fabric, jute sacks, tea bag filter paper, woven sacks	Polywoolen Woven Sacks, FIBC, Leno bags, Wrapping fabric, Jute Hessian and Sacks, Soft luggage products, Tea-bags
Sportech	Sports nets, sleeping bags, hot air balloons, parachute fabrics, sports composites	Artificial Turfs, High performance swimwear & Sportswear, Parachute Fabric, Sleeping Bags , Sports footwear components, Tents, Athleisure & Sports Composites

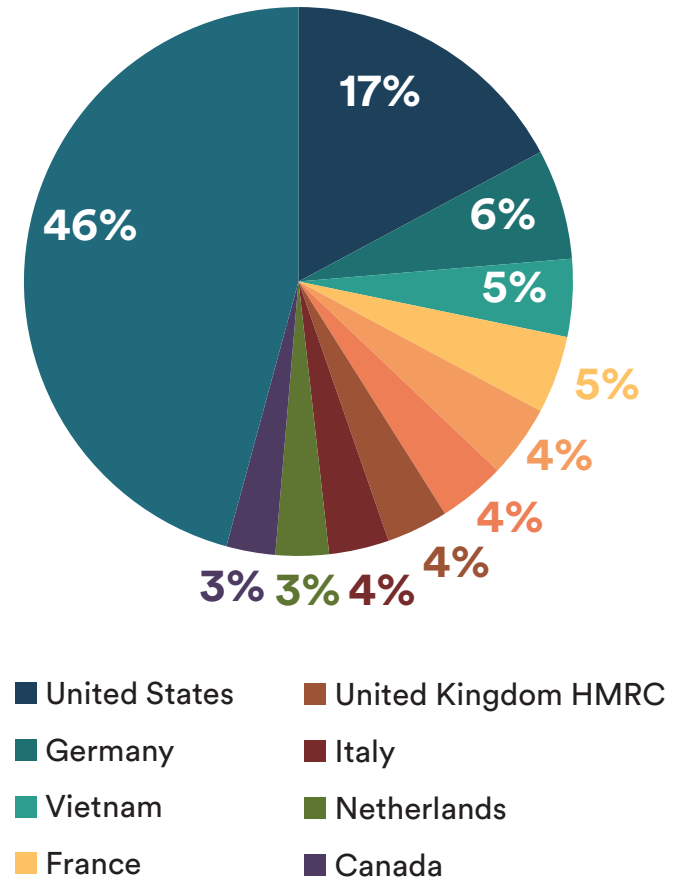
Segment	Application of Narrow Woven Fabrics
Protech	Military goods including parachutes, packs, cargo, and fire safety gears for fire-fighters
Mobiletech	Seatbelts and harnesses and sometimes it is used as a substrate for manufacturing surfboats, boats, and other vehicles.
Sportech	Hiking and backpacking gear
Mobiletech	Aerospace wirings that help in electrical power transmission
Clothtech	Pet collars, bra straps, waistbands, binding tapes, corsets
Medtech	Non-elastic straps, also used to treat aortic abdominal aneurysms, rigid gauze, bandages, and fiberglass bands, etc.

Global Markets ▶▶

2022 – Markets By Region

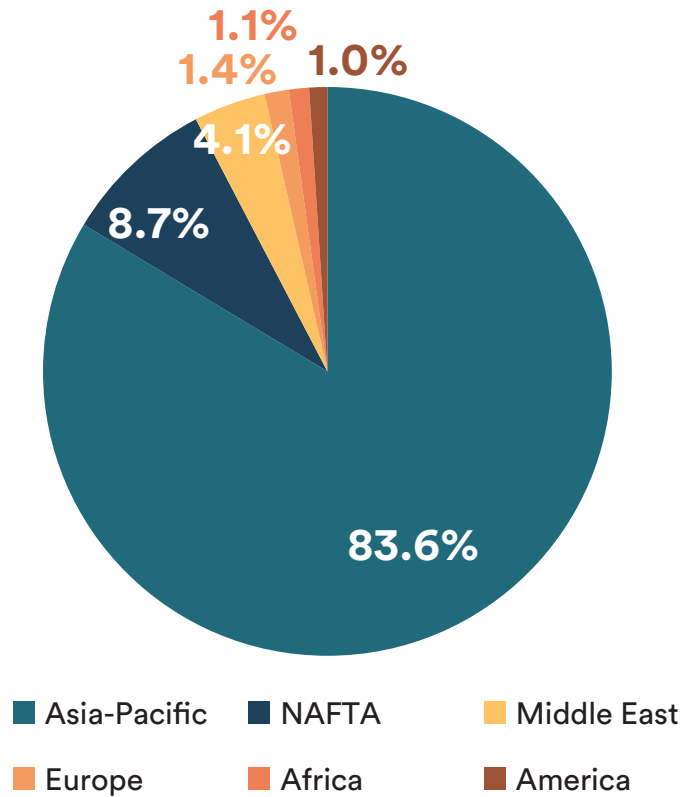


Major Markets By Country

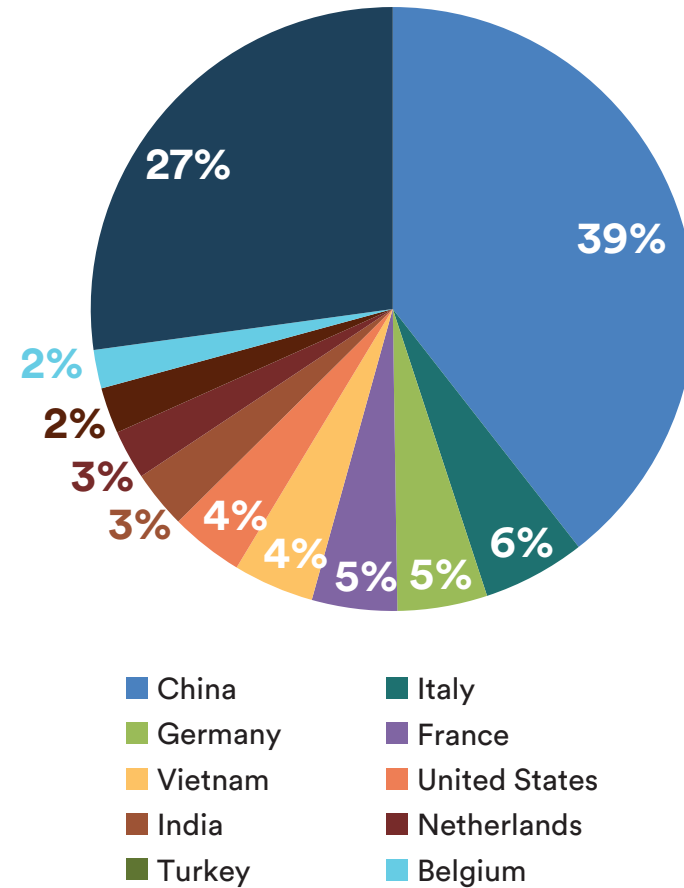


Global Suppliers >>

2022 – Suppliers By Region



Major Suppliers By Country



Major Products ▶▶

Agrotech

- **Crop Covers (27.2%)** – China at 74%, Denmark at 7%, Belgium, Spain, and Italy at 3%, and ROW at the remaining 10%.
- **Fishing Nets (15.4%)** – India at 95%, Indonesia at 3%, Chile and Singapore at 1%, and Sri Lanka at the remaining 0.1%.
- **Mulch Mats (56.5%)** – China 66%, Slovenia 16% , Germany 10% , United Kingdom and Poland at 2%, and ROW at the remaining 4%.

Buildtech

- **Tarpaulins & awnings** – China at 68%, Germany at 9%, Poland at 4%, Netherlands and France at 3%, and ROW at the remaining 13%

Clothtech

- **Made-up Articles (60%)** – China at 94%, Singapore at 2%, India, Hong Kong, Australia, and ROW at 1% each.
- **Other woven fabrics (21%)** – China at 71%, India at 11%, Italy at 4%, Germany at 3%, Spain at 1%, and ROW at the remaining 10%.
- **Synthetic filament (9%)** – India at 62%, Italy at 11%, Spain at 7%, Bulgaria and Indonesia at 3%, and ROW at the remaining 13%.

Geotech

- **Base Material (2%)** – India at 67%, China at 33%, Switzerland and Singapore at 0.2% and 0.1%.
- **Geofabrics (98%)** – China at 83%, Hong Kong at 3%, United Kingdom, Germany, and Italy at 2%, and ROW at the remaining 8%.

Homotech

- **Coated, covered, or laminated Fabrics (51%)** – China at 61%, Germany and Italy at 8%, Portugal and Hong Kong at 3%, and ROW at the remaining 18%.
- **Floor coverings (19%)** – Belgium at 33%, Netherlands at 15%, Luxembourg at 10%, France at 7%, Germany at 7%, and ROW at the remaining 27%.
- **Carpets(9%)** – India at 49%, China at 31%, United Kingdom at 5%, Belgium at 3%, Indonesia at 2%, %, and ROW at the remaining 10%.

Indutech

- **Glass Fibers (14%)** – China at 41%, Belgium at 13%, France at 8%, Netherlands at 6%, Bahrain at 5%, and ROW at the remaining 27%
- **Coated, Covered, or Laminated Fabrics (12%)** – China at 67%, Hong Kong at 9%, India at 6% and Italy at 5%, Netherlands at 4%, and ROW at the remaining 10%
- **Narrow Woven Fabrics (11%)** – China at 71%, Hong Kong at 11%, Canada & Italy at 3%, India at 2%, and ROW at the remaining 10%.

Meditech

- **Bandage (32%)** – China at 48%, Germany at 9%, United Kingdom at 8%, Belgium & Netherlands at 7%, and ROW at the remaining 21%.
- **Hygiene Products (25%)** – China at 59%, Saudi Arabia at 14%, Hungary at 5%, Italy & Israel at 3%, and ROW at the remaining 15%.
- **Surgical Tapes (18%)** – China at 56%, Germany at 16%, Singapore at 5%, Brazil at 4%, Netherlands at 3%, and ROW at the remaining 16%.

Mobiltech

- **Other parts and accessories (82%)** – Canada at 58%, India at 39%, South Africa, Hong Kong, & Israel at 1%, and ROW at the remaining 1%
- **Airbags (10%)** – China at 77%, Canada at 14%, India at 7%, South Africa at 1%, and ROW at the remaining 1%
- **Seat Belts (2%)** – China at 56%, India at 19%, Brazil at 16%, Australia at 4%, Indonesia at 2%, and ROW at the remaining 3%.

Protech

- **PPE (51%)** – China at 48%, Italy at 10%, France at 6%, Germany at 5%, Netherlands at 3%, and ROW at the remaining 26%.
- **Gloves (45%)** – China at 82%, Sri Lanka at 16%, India at 1%, and ROW at the remaining 1%
- **Flame Retardant Fiber (1%)** – China at 100%.

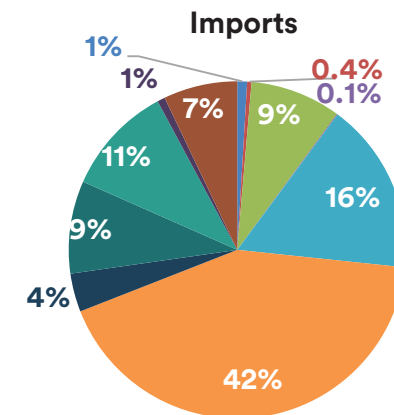
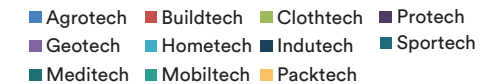
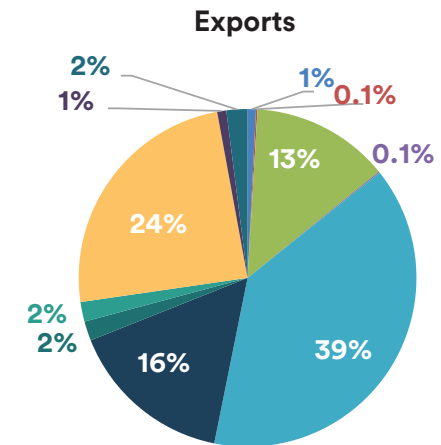
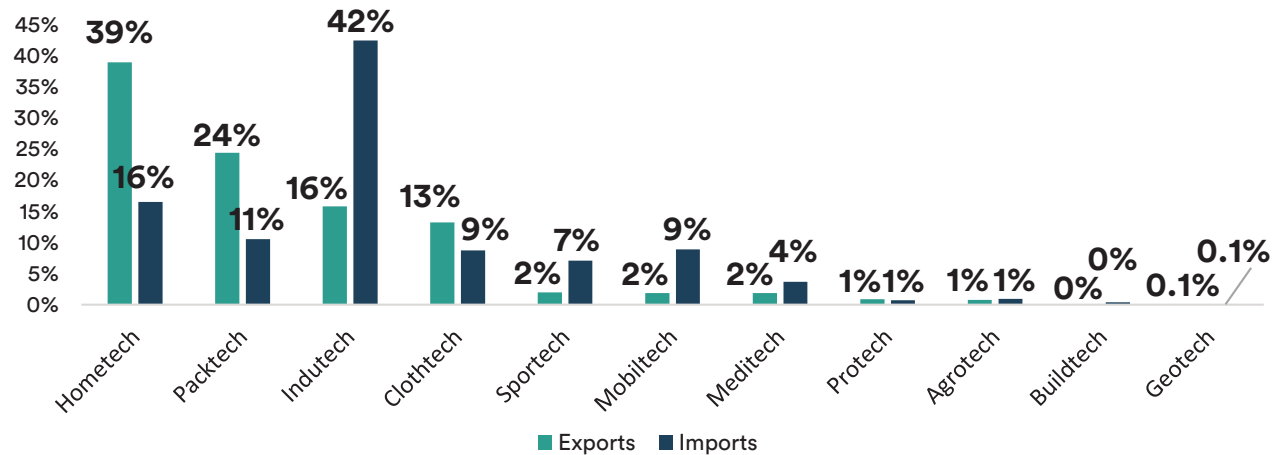
Sportech

- **Sports Accessories (59%)** – China at 49%, Netherlands at 9%, Germany at 6%, Italy at 5%, France at 4%, and ROW at the remaining 28%.
- **Sports Apparel (21%)** – China at 71%, Sri Lanka at 5%, Hong Kong and Italy at 4%, Switzerland at 2% ROW, and ROW at the remaining 14%.
- **Tents (18%)** – China at 77%, Netherlands at 3%, Belgium and Germany at 3% Poland at 2% and ROW at the remaining 12%.

Indian Technical Textiles Market Overview ▶▶

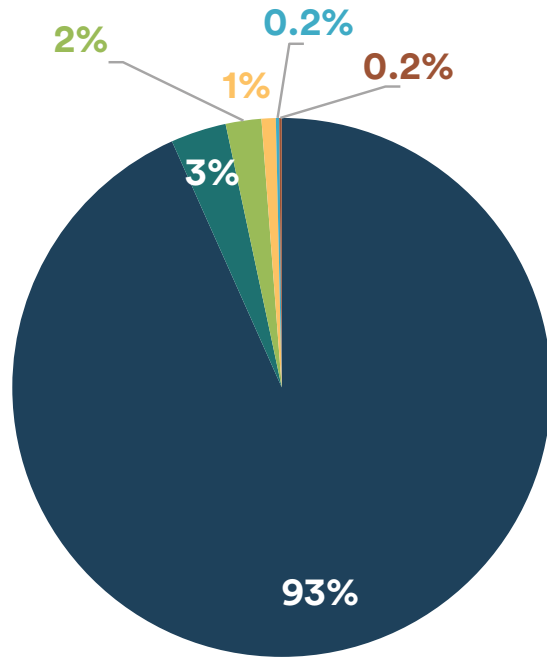
The Indian textile market including Technical Textiles stood at \$41.3 Billion of which conventional textiles contributed 93 % valuing \$38.5 Billion and Technical Textiles stood at the remaining 7 share of ~\$2.8 Billion.

Indian Technical Textile Trade 2022



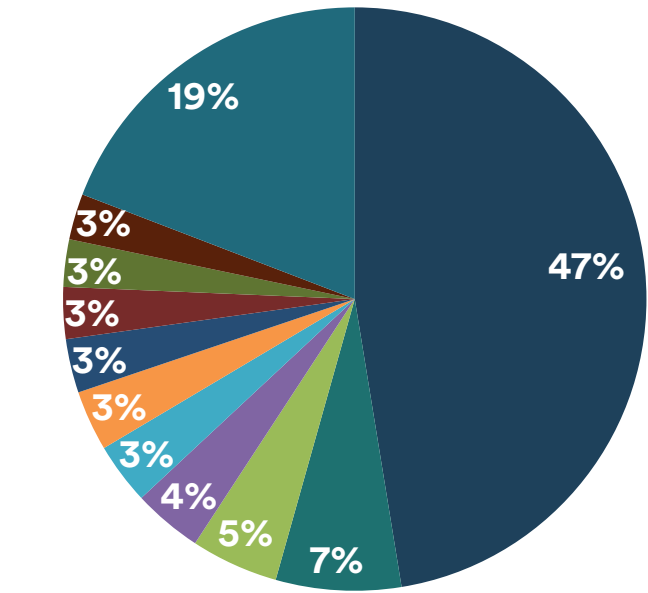
Indian Imports >>

Imports By Region



- Asia-Pacific
- NAFTA
- Middle East
- Europe

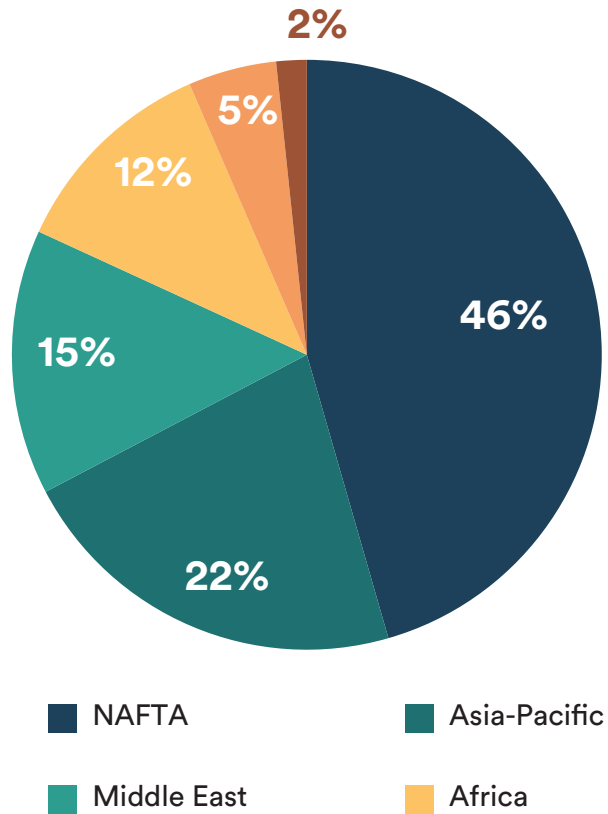
Imports By Country



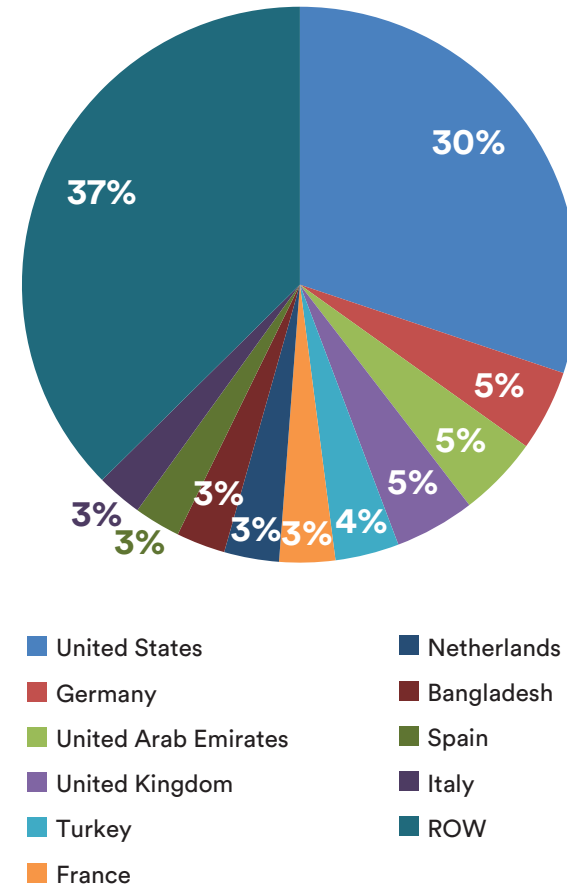
- China
- Bangladesh
- Vietnam
- Thailand
- Indonesia
- Korea, South
- Japan
- Nepal
- Taiwan
- United States
- ROW

India Exports >>

Exports by Region



Exports By Country



Technical Textiles Market 2022 for India ▶▶

Agrotech		Buildtech		Clothtech		Geotech		Hometech	
Country	% Share	Country	% Share	Country	% Share	Country	% Share	Country	% Share
Norway	17%	United Arab Emirates	40%	United Arab Emirates	15%	United States	51%	United States	44%
Chile	13%	United States	28%	Turkey	14%	Australia	13%	United Kingdom	4%
United States	9%	United Kingdom	5%	Bangladesh	8%	France	9%	Germany	4%
Oman	8%	Canada	5%	United States	8%	Germany	7%	Australia	3%
United Arab Emirates	7%	Germany	5%	Sri Lanka	3%	Italy	4%	France	3%
Canada	6%	Netherlands	2%	Morocco	3%	United Kingdom	2%	Bangladesh	3%
Morocco	6%	Australia	2%	Brazil	3%	Czech Republic	2%	Netherlands	3%
United Kingdom	5%	France	2%	Argentina	3%	Switzerland	2%	China	3%
Kenya	4%	Belgium	1%	United Kingdom	2%	Netherlands	1%	United Arab Emirates	2%
Sri Lanka	2%	Qatar	1%	Nigeria	2%	Bosnia & Herzegovina	1%	Canada	2%
ROW	24%	ROW	8%	ROW	40%	ROW	9%	ROW	29%

Indutech		Meditech		Mobiletech		Packtech		Protech		Sportech	
Country	% Share	Country	% Share	Country	% Share	Country	% Share	Country	% Share	Country	% Share
United States	22%	United States	19%	United States	12%	United States	28%	United States	19%	United States	29%
Turkey	10%	Nepal	9%	Turkey	12%	Germany	8%	Belgium	14%	United Kingdom	15%
United Arab Emirates	6%	Germany	7%	China	10%	United Kingdom	8%	France	11%	Australia	8%
Nepal	4%	United Arab Emirates	6%	Brazil	6%	France	7%	Netherlands	11%	Germany	6%
Bangladesh	4%	Netherlands	5%	Bangladesh	6%	Netherlands	6%	Brazil	8%	France	3%
Germany	3%	Poland	5%	South Africa	5%	Spain	6%	United Arab Emirates	5%	Netherlands	3%
Brazil	3%	Australia	4%	Mexico	5%	Italy	5%	United Kingdom	3%	South Africa	2%
Italy	3%	France	4%	Kenya	4%	Belgium	4%	Germany	3%	Canada	2%
Belgium	2%	United Kingdom	4%	Romania	3%	Australia	3%	Spain	2%	Ethiopia	2%
United Kingdom	2%	Italy	3%	Belgium	3%	Canada	2%	Italy	2%	United Arab Emirates	2%
ROW	41%	ROW	35%	ROW	34%	ROW	23%	ROW	22%	ROW	27%

Agrotech		Buildtech		Clothtech		Geotech		Hometech	
Country	% Share	Country	% Share	Country	% Share	Country	% Share	Country	% Share
Bangladesh	25%	Bangladesh	63%	China	54%	China	80%	China	56%
Malaysia	24%	China	26%	Indonesia	7%	Hong Kong	10%	Nepal	6%
China	16%	United States	2%	Hong Kong	7%	Sri Lanka	4%	Vietnam	6%
Thailand	16%	Belgium	2%	Thailand	6%	Turkey	1%	Bangladesh	5%
United Kingdom	4%	Japan	2%	Taiwan	5%	Taiwan	1%	Korea, South	4%
Korea, South	3%	Italy	1%	Korea, South	4%	United Kingdom	1%	Indonesia	4%
United States	2%	Netherlands	1%	Vietnam	3%	Colombia	1%	United States	2%
Japan	2%	Indonesia	1%	Malaysia	2%	Vietnam	0%	Turkey	2%
Germany	1%	Australia	0%	Germany	2%	Nepal	0%	Taiwan	2%
Sri Lanka	1%	United Kingdom	0%	United Arab Emirates	2%	Korea, South	0%	Germany	2%
ROW	8%	ROW	2%	ROW	10%	ROW	1%	ROW	12%

Indutech		Meditech		Mobiletech		Packtech		Protech		Sportech	
Country	% Share	Country	% Share	Country	% Share	Country	% Share	Country	% Share	Country	% Share
China	42%	China	38%	China	47%	China	51%	China	52%	China	57%
Bangladesh	7%	Indonesia	16%	Vietnam	22%	Bangladesh	22%	United Arab Emirates	8%	Vietnam	7%
Thailand	5%	Thailand	7%	Japan	12%	Singapore	4%	Bangladesh	6%	Japan	6%
Korea, South	5%	Germany	6%	Nepal	4%	Nepal	3%	Spain	4%	Taiwan	6%
Germany	3%	United States	6%	Thailand	4%	France	3%	France	3%	United States	5%
Indonesia	3%	Russia	5%	Taiwan	4%	Hong Kong	2%	Sri Lanka	3%	Italy	2%
Japan	3%	Korea, South	3%	Indonesia	1%	Italy	2%	United States	3%	Hong Kong	2%
United States	3%	Vietnam	3%	Russia	1%	Switzerland	2%	Malaysia	3%	Bangladesh	2%
Malaysia	3%	Poland	2%	Italy	1%	Netherlands	1%	United Kingdom	2%	Indonesia	1%
Taiwan	3%	Belgium	2%	Korea, South	0%	United States	1%	Netherlands	2%	Singapore	1%
ROW	22%	ROW	14%	ROW	3%	ROW	8%	ROW	13%	ROW	11%

Technical Textiles Companies Operating In India ▶▶

- The Technical Textile industry in India, is an import-intensive industry, unlike traditional textiles.
- There are some large domestic players in this segment like SRF, Entremonde Polycoaters, Kusumgar Corporates, Supreme Nonwovens Pvt. Ltd., Garware Wall Ropes, Century Enka, Techfab India Ltd., Unimin, Strata Geosystems (India) Private Ltd, Tata Advanced Systems Ltd., etc.
- In addition, there are several multinational players in Technical Textiles like Johnson & Johnson, DuPont, Procter & Gamble, 3M, SKAPs, Kimberly Clark, Ahlstorm, Maccaferri, Strata, and Terram etc. who have set up their manufacturing facilities in India.
- Large textile houses like Arvind Limited and Welspun have strong technical textiles businesses.

Technical Textiles Challenges In India ▶▶

- Major gaps in technological advancement.
- Indian machine makers are facing fierce competition from European and Chinese producers of complex, high-end machinery
- Ease of doing business in India is comparatively difficult as compared to other competing countries.
- Consumers prefer to purchase goods from an Indian manufacturer with supreme quality at cheap prices which is practically not feasible.
- Infrastructure and fiscal benefits offered to enterprises are high in countries like (China, US, and Europe) and they act as extra incentives for imported machinery overpowering ATUF subsidy on imported machines provided by Indian Government.
- Manufacturers of Technical Textile machines are facing business challenges due to inappropriate Quality Control Order by the Ministry of Steel on the import of high-quality but low-volume (steel) required by Indian Entrepreneurs.

Technical Textiles Opportunities In India Facilitated by Government ▶▶

Segment	Opportunity	Ministries and Departments
Geotextiles	<p>PM GATI SHAKTI & National Investment Pipeline fund</p> <p>Tremendous opportunities in Roads, Railways, Dams, Soil Erosion Control, etc.</p>	Ministry of Water Resources, Ministry of Railways, Ministry of Road Transport & Highways, Ministry of Shipping.
Agrotech	<p>High Awareness created by Krishi Vigyan Kendras, etc</p> <p>Increase in farm productivity by using Agrotech products.</p>	Ministry of Agriculture & Farmers Welfare. Products such as vermi-beds, bug nets, shade nets, and micro-irrigation pipes, are used in the Mission for Integrated Development of Horticulture. (MIDH)
Protech	<p>Enhanced spending over the defence sector.</p> <p>Evolving regulations for protective clothing usage</p>	Ministry of Home Affairs/ Ministry of Defence
Meditech	<p>Growing Population</p> <p>Growth of Healthcare Industry</p> <p>Increased awareness of personal hygiene.</p>	Ministry of Health & Family Welfare

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