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POLICY BRIEF-
**TECHNICAL
TEXTILES**

TECHNICAL TEXTILES

Harnessing Production And Export Potential In Pakistan



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The policy issue

Textile products are one of the basic necessities of human life. The need for performance-based textiles has given birth to technical textiles which have shown important innovations over the past few decades. Their utility to varied sectors such as agriculture, industries, and healthcare, can be judged from the fact that they are increasingly being used to replace conventional textiles because of their specified features.

The technical textile industry is one of the fastest growing industries in the world. It is a highly innovative and versatile industry, serving a wide range of end markets with less competition and higher added value compared to the conventional textiles. These attributes have led many countries to shift their textile industry from conventional to technical textiles.

This policy brief is based on a first of its kind study on technical textiles in Pakistan which explores existing opportunities and capabilities of producing technical textile in Pakistan and maps out recommendations to increase the country's market share in the global economy. This document presents the key analysis and recommendations emerging from the study.



Methodology

The study focused on evaluating the existing data from 2015 to 2019 on conventional and technical textiles.

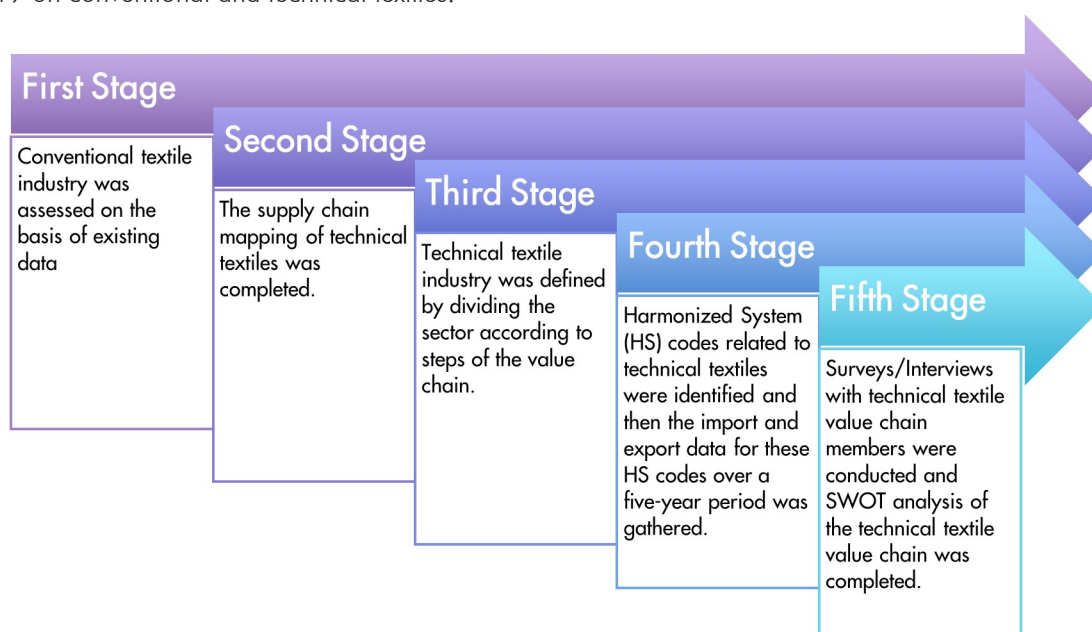


Figure 1 : Methodology of the study

Findings

The study focused on evaluating the existing data on conventional and technical textiles between 2015 and 2019.

In Pakistan, there are two types of technical textile industries; dedicated/specialized technical textile industry clusters and conventional textile industry producing technical textiles. With respect to its applications, technical textiles are divided into 12 main categories (Figure 2).

The technical textile industry exists in Pakistan as small industrial clusters of small and medium enterprises (SMEs) in Sialkot, Gujranwala, Faisalabad, Lahore and Karachi. The conventional textile industries of Pakistan (large-scale industries and SMEs) are producing technical textiles as well by diversifying their products, dealing with healthcare textiles, protective textiles and packaging textiles. These industries are mainly based in Faisalabad, Lahore, Multan and Karachi.

The demand for technical textiles is likely to gain traction across Asia-Pacific countries. Mobiltech, Indutech and Sportech account for 52 percent of the total market. Europe and China together account for more than 50 per cent of global technical textile production, while India accounts for approximately five per cent of the production. Contrary to conventional textiles with a

cumulative annual growth rate of one per cent, the growth rate of technical textiles in the world is about 4.6 per cent. The global technical textiles market is expected to rise to US\$220 billion by 2025. Mobiltech is the biggest application segment of technical textiles with a US\$42 billion value and 22 per cent share in the global market. It is followed by Indutech and Sportech with a share of US\$30 billion (16 per cent) and US\$27 billion (14 per cent) respectively. These three categories account for 52 per cent of the total technical textiles market. The total trade volume of technical textiles in 2019 in the world was equal to USD 211 billion.

For a developing country such as Pakistan, technical textile is emerging as an important innovation for the country's economy. Pakistan's share in technical exports was equal to US\$455 million which accounts for 0.215 per cent. At the same time, Pakistan imported about USD 313 million worth of technical textiles in 2019. In addition, there is a trade volume of US\$35.5 billion for technical fibers, yarns and fabrics. In this sector, Pakistan exported goods worth US\$7.0 million, which is 0.02 per cent of total volume. Pakistan imported goods worth US\$117.5 million in this sector as well.

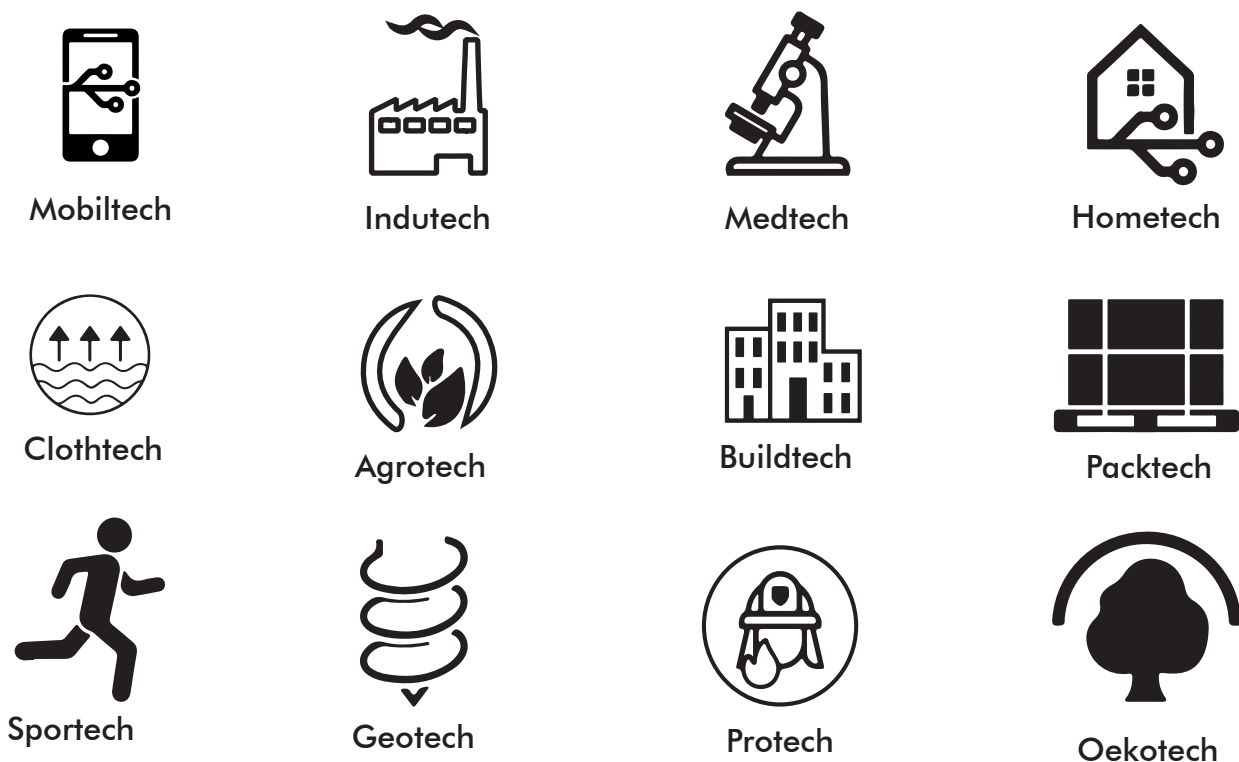


Figure 2: Types of technical textile

Pakistan: Technical Textiles' Annual Import and Export (2015-2019)

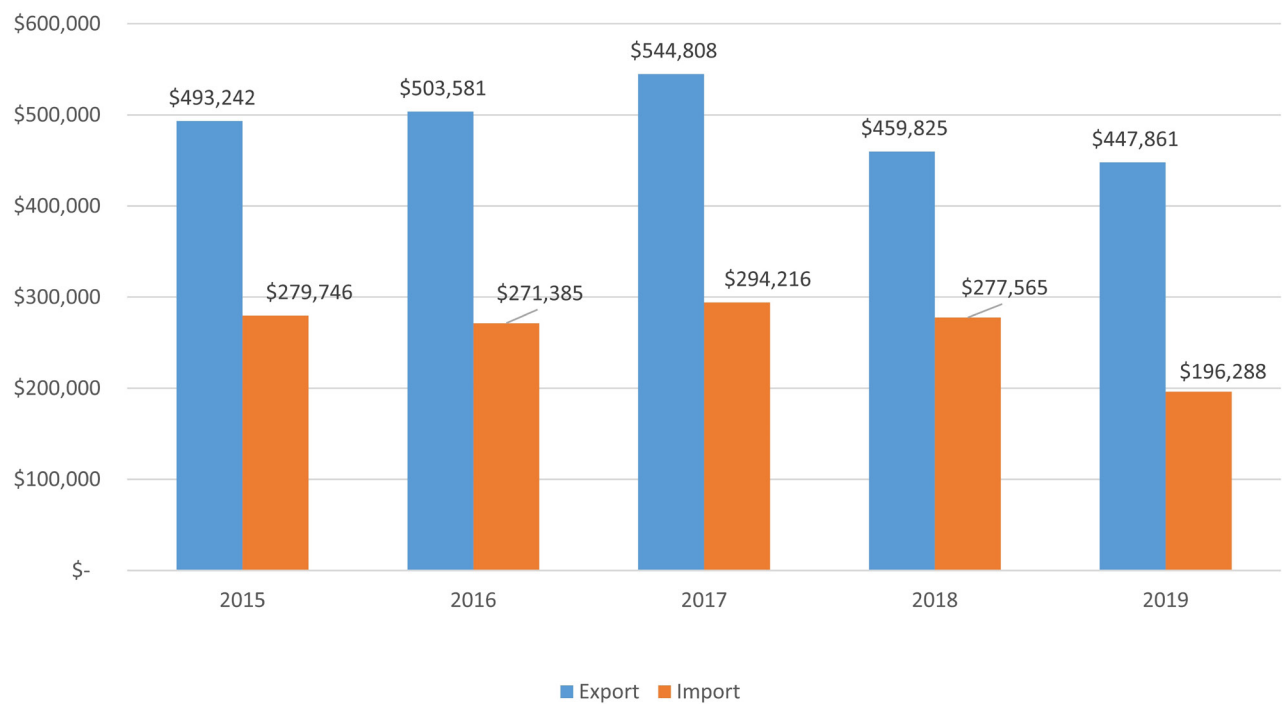


Figure 3: Pakistan's technical textile exports and imports (thousand US\$) comparison



Challenges

Pakistan faces major challenges that prevent the technical textile industry from reaching its full potential.

One of the key competitive advantages in the technical textile business is having a unique product that is based on proprietary technology⁴, which comes from extensive investment in **research and development** and product development activities. That is not the case in Pakistan. The lack of technical expertise and exclusive technology can hinder the growth of this industry.

There is a **lack of specialized training centres** in technical textiles and nonwoven⁵ fabrics and a **lack of expertise** that can provide technical support to businesses.

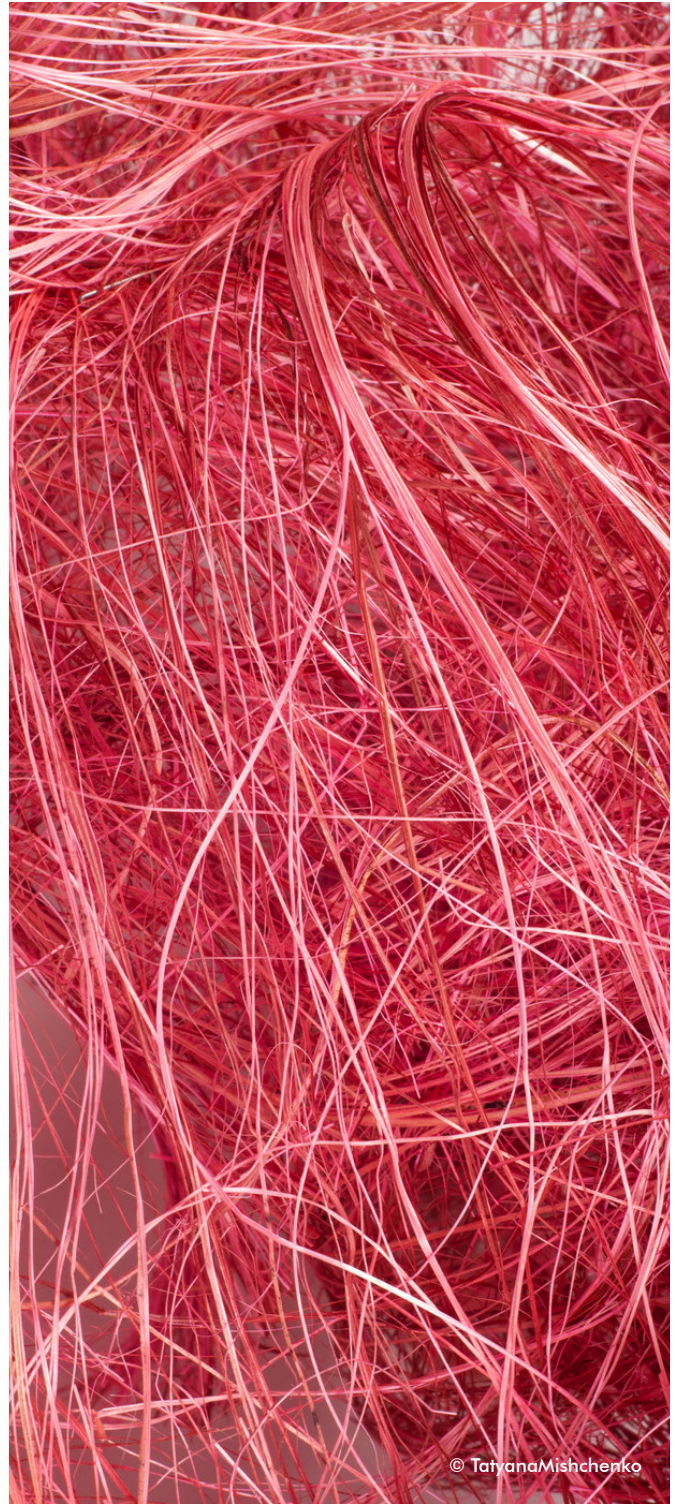
There is an overall **lack of awareness** about technical textile materials, applications and benefits and a high rate of staff turnover.

Another limitation is the **lack of high-performance fiber, yarn and specialty⁶ fabrics providers**. Local suppliers may have access to these types of raw materials, but they may have non uniform quality and delayed deliveries.

There is a **lack of testing facilities** that can do advanced testing and validation of technical materials such as antimicrobial activity, fire retardant, porosity, filtration efficiency, and others.

Coupled with the **absence of local standards** for technical textiles, this results in a high degree of uncertainty in the market.

In most cases, capital investment in technical textiles in Pakistan is high because of the **high capital cost of machinery**, particularly in upstream processes. The severity of this issue has increased with the devaluation of the rupee relative to the dollar as most machines are imported in dollars. Additionally, high bank interest rates further complicate this issue. Moreover, most technical textile companies in Pakistan are small and medium-sized enterprises with small economies of scale.



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⁴ Any technical innovation which is unique in nature and legally owned/licensed by a business

⁵ Fibrous assembly, primarily planar, which has been given a designed level of structural integrity by physical and/or chemical means, excluding weaving, knitting or papermaking (ISO 9092:2019)

⁶ Specialty fabrics are manufactured to serve a specific purpose as opposed to non-specialty fabrics and therefore, offer better performance when used for a specific application. They are used both in the industry and commercial sector.

Risk factors

Following are some risk factors posed to the technical textiles value chain in Pakistan:

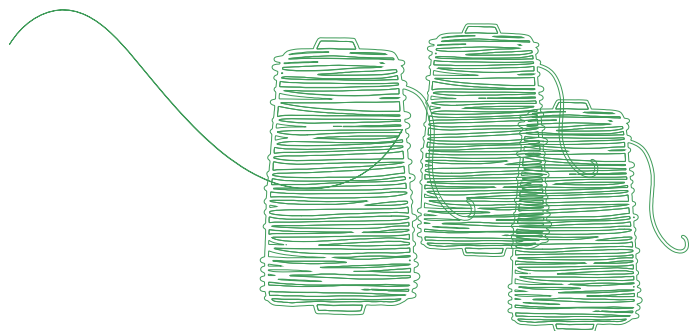
- **Increasing competition** from countries such as India, Vietnam and Turkey. The technical textiles sector in India has become one of the fastest growing segments of the Indian economy and may see double-digit growth in the coming years. Vietnam is emerging as one of the largest exporters of technical textiles, while Turkey is a key participant in the global technical textile market and occupies a strategic location in terms of its proximity to Europe, familiarity with the securities industry and secure links.
- **Changes in the business environment** due to an increase in utilities and energy prices, appreciation of the rupee against US dollar for exporters, and removal of export subsidy.
- **Fast technological changes**, an increasing protection on know-how and proprietary technologies and difficulty in gaining the technical know-how, is increasing the reluctance of local companies to invest in this sector.

Conclusion

The technical textile industry of Pakistan suffers from a plethora of issues, mainly dearth of proprietary technology, unavailability of high-performance and specialized raw material, and high capital cost of machinery for technical textiles. There is an overall lack of awareness about technical textile materials, applications and benefits and a high rate of staff turnover.

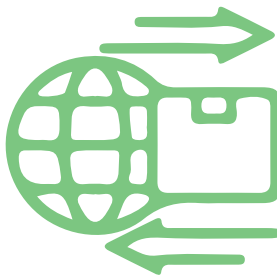
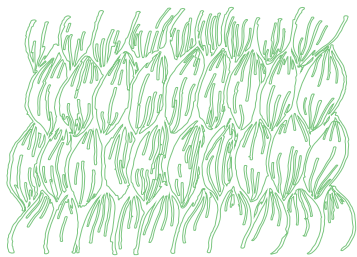
Concurrently, this study shows that innovation in technical textiles is a favorable approach towards increasing the country's export profile. Pakistan has unique strengths in technical textiles. It is a great location for business due to cheap labor in labor intensive processes, for example knitting, weaving, braiding, processing, and product development.

Moreover, Pakistan houses a lot of small industries for low quantity product manufacturing. There are also large businesses with economies of scale that can compete with global competitors. The industry in Pakistan is very diverse, with a broad range of products that can meet the diverse local demand for technical textiles. There is high local demand for technical textiles in Pakistan, including Med-tech, Clothtech and Buildtech, which is a significant strong point that can help support the growth of this industry.



Policy recommendations

In light of the above discussion, the following policy recommendations are made:



- Establishment of a specialized research centre of excellence and technology incubator, which can support all research and development activities, technology commercialization, technical training, and technical consultation.

Responsibility: Ministry of Commerce, Higher Education Commission of Pakistan and Ministry of Federal Education and Professional Training

- Creation of a supply chain training⁷ with an emphasis on technical textiles and major global suppliers. Facilitate the import of high performance and specialized fibers, yarns and fabrics and reduce the import tariffs on raw materials.

Responsibility: Ministry of Commerce and Federal Board of Revenue (FBR)

- Provision of awareness and training programmes to textile companies in Pakistan on fundamentals, applications, and market potential of technical textiles

Responsibility: All Pakistan Textile Mills Association (APTMA) and other associations, Chambers of Commerce and Industry, National Textile University (NTU) and WWF-Pakistan.

- Establishment of pilot plants and prototyping facilities to support scaling-up of new technical textile developments.

Responsibility: National Textile University (NTU)

- Revision of the textile engineering curriculum to include a major or concentration on technical textiles. Addition of special topics on technical textiles in the curriculum of other engineering majors.

Responsibility: National Textile University (NTU), textile departments in universities, and Pakistan Engineering Council / Higher Education Commission.

⁷ Supply chain training offers training on various aspects of a supply chain such as inventory control, demand and supply, manufacturing and warehousing, procurement and order management etc.

Acknowledgement

This policy brief is based on WWF-Pakistan's report titled "**Production and Export of Technical Textiles: Harnessing the Potential in Pakistan**".

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² Future Market Insights (FMI). 2017.

³ <https://comtrade.un.org/data>. 2020. Collected and presented by Tanveer Hussain, National Textile University.



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