



## 2016 Top Markets Report **Technical Textiles**

### Overview and Key Findings

#### Introduction

The technical textile industry is broad and diverse with new and innovative applications developed regularly. The technical textile industry is also increasing proportionally relative to the whole textile industry; therefore, the U.S. Department of Commerce’s International Trade Administration (ITA) has committed to developing a tool for prioritizing U.S. government export promotion efforts to help target resources toward technical textile markets and sectors most likely to result in U.S. exports. This study examines the U.S. technical textile industry and highlights key markets that will see increased exports by U.S. technical textile producers. The goal of this report is to assist U.S. producers of technical textiles identify markets where demand is growing for their products. This study examines both past performance of exports in this sector and projects estimates for growth through 2017.

#### Key Findings: Top Markets and Methodology

In the *2015 Technical Textiles Top Markets Report*, ITA forecasted world demand for U.S. technical textiles to grow 4.6 percent. According to recently

released data for 2015, however, demand contracted slightly, and exports actually only grew 4 percent in 2015. Based on the latest data, ITA now projects these exports to grow from \$8.6 billion in 2015 to \$9.3 billion by 2017.

ITA identified eight countries from the top 30 for in-depth case studies: Brazil, Canada, China, India, Korea, Mexico, Taiwan and Vietnam. These markets represent a range of countries to illustrate a variety of points rather than the top markets overall. Each case study contains a brief overview of the country’s textile sector before going a step further, examining the current state of its technical textiles sector, i.e. current situation and needs; challenges to exports; and opportunities for U.S. exports of technical textiles in each sub-sector.

For the eight markets ITA highlighted as growth opportunities for technical textiles, the most recent data for 2015 found minor shifts in the rankings of countries’ technical textiles markets. The new data largely confirms ITA expectations that the development of new markets will drive demand for

**Figure 1: Ranking of Projected Technical Textile Export Markets (2016-2017)**

|                   |                          |                  |
|-------------------|--------------------------|------------------|
| 1. Mexico         | 11. Korea                | 21. Poland       |
| 2. Canada         | 12. Dominican Republic   | 22. Taiwan       |
| 3. China          | 13. Brazil               | 23. Saudi Arabia |
| 4. Germany        | 14. Australia            | 24. Italy        |
| 5. United Kingdom | 15. United Arab Emirates | 25. Peru         |
| 6. Japan          | 16. Singapore            | 26. France       |
| 7. Hong Kong      | 17. India                | 27. Costa Rica   |
| 8. Honduras       | 18. Vietnam              | 28. Thailand     |
| 9. Belgium        | 19. Chile                | 29. Nicaragua    |
| 10. Netherlands   | 20. Colombia             | 30. Malaysia     |

US technical textiles exports.

Due to its continued focus on high value products like technical textiles, especially for use in auto manufacturing, **Mexico** maintains its position as the top destination for U.S. technical textiles. Its share of U.S. exports of technical textiles increased 3 percent from 36 percent in 2014 to 39 percent in 2015, and ITA expects its share to increase an additional 5 percent to 44 percent in 2017.

In comparing 2014 to 2015, **Canada** is still the second largest market for U.S. technical textiles. It is also the largest market for U.S. protective apparel. This is due to end user industries for oil and gas, construction and manufacturing, healthcare and mining, which all require the use of protective apparel. Additionally, Canada's demand for U.S. medical textiles was forecast by ITA to grow a mere 1 percent but actually grew 4 percent in 2015.

Along with Mexico and Canada, **China** is a major player in the technical textiles market. China's overall demand for U.S. produced technical textiles, however, has remained relatively flat. This can be explained through a possible slow shift of exported products from China to more duty friendly countries part of the recently completed Trans-Pacific Partnership Agreement, such as Vietnam.<sup>1</sup> Certain sectors of medical textiles and protective apparel of the Chinese technical textile market are experiencing high demand and accelerating at a fast pace. These two sectors exceeded last year's projections. In medical textiles and protective apparel, ITA forecasted 2015 exports to China to increase by 11 percent to \$30 million and 8 percent to \$21 million, respectively. Yet, according to the most recently published data, the U.S. actually exported \$38 million in medical textiles and \$34 million in protective apparel to China last year. China has climbed three spots from the eighth largest market for U.S. medical textiles and seven spots from the 12<sup>th</sup> largest market for U.S. protective apparel to the fifth largest markets for both sectors. China will continue to be a market destination for U.S. inputs and still maintains a large percentage of the market.

After a decade during which GDP growth averaged 3 percent to 4 percent, **Brazil** slipped into a recession in mid-2014. GDP contracted by 3 percent in 2015. This has had spillover effects for exports of technical textiles to Brazil. In last year's Top Markets Report, Brazil ranked in the top 10 in all four sub-sectors.

After updating the data to reflect 2015 exports, Brazil has dropped from the top 10 of all sub-sectors. Overall growth of demand for U.S. technical textiles in Brazil has been reduced from 8.7 percent to 2.7 percent. Although Brazil is experiencing a recession and demand is down, in the long run, Brazil is still an important market not to be overlooked.

There is still a strong demand for technical textiles in **Korea**. In last year's report, Korea was forecast to be the 12<sup>th</sup> largest market for U.S. technical textiles. Korea exceeded ITA's expectations by 2 percent and has moved up one spot to 11<sup>th</sup>. Korea also exceeded expectations in both the specialty and industrial fabric and protective apparel sectors.

Overall, **India** performed almost as expected, as ITA had forecast that India would remain the 17<sup>th</sup> largest market for U.S. technical textiles. India is forecast to be the 11<sup>th</sup> largest market for U.S. non-wovens, which is a three spot jump from 14<sup>th</sup> in last year's report. India has not performed as well in medical textiles and protective apparel. India is facing competition from countries like Vietnam. The recently concluded Trans-Pacific Partnership could be damaging to the development of India's technical textile sector, as trade moves to countries that are a part to this agreement and provides U.S. producers better tariff options.

Of all eight markets analyzed, **Taiwan's** performance as an export market for U.S. technical textiles is the most underwhelming. There has been a significant drop in the export of U.S. technical textiles to Taiwan. From 2008 to 2014, U.S. exports of technical textiles grew 13.7 percent annually. 2015 was the first year when exports did not increase from the previous year. Exports decreased 32 percent between 2014 and 2015. This contraction can be explained two ways. Taiwan's goal has always been to be a world leader of technical textiles. Taiwan now has a fully integrated supply chain and has continued to innovate and cultivate R & D capabilities. We could now be seeing Taiwan being less reliant on imported technical textiles. This could be the cause of Taiwan's decrease in demand of U.S. technical textile products. Another explanation can be found in the fact that the domestic textile sector of Taiwan continued to show contraction in December 2015, according to the Taiwan Institute of Economic Research (TIER). The increasing competition from developing economies and weak

demand from China could be the cause in the drop of orders in the technical textile sector.

**Vietnam** has continued its trend of double digit annual growth in the demand for U.S. technical textiles. ITA had forecast Vietnamese demand for specialty and industrial fabrics to grow 25 percent to \$17.2 million in 2015. Exports in this sector actually grew 30 percent to \$22.3 million. Vietnam is increasing its demand for U.S. technical textiles. The country's Vietnam National Textile and Garment Group (Vinatex) plans to invest \$441.3 million in 59 textile, dyeing, garment and infrastructure projects over the next two years. Government policies are favorable to industry; entry barriers are not high, and Vietnam is part of the Trans-Pacific Partnership Agreement with the U.S. Vietnam's textile industry is now looking forward to another boom, and this presents an opportunity for U.S. producers to increase their market share.<sup>2</sup>

Figure 1 ranks the top 30 markets for U.S. technical textile exports through 2017. ITA has forecast expected growth trends and export market potential. This study is again focusing on the eight markets referenced above and has added Singapore to the analysis.

### Methodology

Accurately assessing the U.S. export market potential for the technical textile sector was difficult. This required several steps. The first step involved defining the technical textile sector itself. To accomplish this, this study chose four sectors of the technical textile industry to examine: non-wovens, specialty and industrial fabrics, medical textiles and protective textiles.

The second step required ITA to create a technical textile dictionary to define these four sectors. This dictionary was created using Schedule B commodity codes maintained by the U.S. Census Bureau of the International Harmonized System. This dictionary is made up of 133 schedule B commodity codes at the 10 digit level.

ITA then compiled export data for these commodity codes for a seven year time period starting at 2008 and ending in 2015. ITA then calculated compounded annual growth rates as well as export market share for the seven year period and, using

those rates, projected the expected export potential for 2016 and 2017.

### Trade Data

All U.S. export trade data used in this study was sourced from the Office of Textiles and Apparel, International Trade Administration, U.S. Department of Commerce.

### **Industry Overview and Competitiveness**

The technical textile market can be evaluated by application or process. This study examined one market based on process type (non-wovens) and three sectors based on application (specialty and industrial fabrics, medical textiles and protective apparel).

### Non-wovens

The end use markets for non-wovens are classified as either disposable or durables. The disposable end use markets are made up of product categories such as absorbent hygiene, wipes, filtration, medical and surgical and protective apparel, while the durable end use markets are comprised of geosynthetics, home & office furnishings, transportation, building construction and other durables.

The ongoing drive to come up with new and better performing products is helping propel the non-woven industry forward.<sup>3</sup> Non-wovens are being used to make a variety of products lighter, more efficient and more cost effective, including packaging and autos. In the latter case, one study suggested that more than 40 individual parts now are being made using these non-wovens, principally to increase vehicle efficiency, effect cost savings, reduce energy consumption and improve acoustical insulation.<sup>4</sup>

With respect to consumer goods, rising incomes and the standard of living in developing countries are propelling individuals to purchase convenience items, promoting the production of disposable infant diapers among other items that are made with significant amounts of non-woven fabrics.

In terms of trends in the non-wovens sector, one of the fastest growing markets for non-wovens is filtration. This is driven by an increase in the consumer demand for clean air and drinking water

as well as increased fuel efficiency in vehicles and infrastructure improvements in developing countries.<sup>5</sup> Furthermore, growth in the non-wovens sector is also led by the expanding use of wipes, which is the fastest growing of the disposable categories, and increases in the transportation markets, the fastest growing of the durables.

#### Specialty and Industrial Fabrics

Specialty and industrial fabrics serve a wide array of markets, from awnings to auto airbags as well as new base fabrics used in road construction, erosion control and spoil containment in landfills.

Automotive textiles represent the most valuable world market for industrial textiles. These materials cover a broad range of applications, including upholstery and seating, floor covering and trunk liners, as well as safety belts, airbags, thermal and sound insulators, filters, hoses, tires and a variety of textile-reinforced flexible and hard composites. The automotive textile industry is strong in many Asian countries such as China, Japan, India, Korea, Thailand and Taiwan. This is an area where U.S. industrial fabric producers have an opportunity to expand their market share. Markets that use specialty and industrial applications, especially the automobile and industrial markets, will continue to drive growth in the technical textiles market in 2016 and 2017.

#### Medical Textiles

Medical textiles are one of the most important, continuously expanding and growing fields in technical textiles. The medical textile industry has been improving existing products and creating new ones with new materials and innovative designs. Some of these new products are being designed for less-invasive surgical procedures, infection control and accelerated healing.<sup>6</sup>

Countries are now supporting and providing various programs in order to promote the production and consumption of medical textiles. Population growth, aging populations and the construction of new medical facilities are driving forces for this industry. Some governments have also introduced diverse programs aimed at significant improvements in the healthcare of the country's population.<sup>7</sup>

The United States can maintain its global market share in medical textiles by continuing to invest in research and development (R&D) and identifying and exporting to markets with expanding medical infrastructure.

This market is witnessing substantial innovations in personal and medical hygiene products, and it presents a lucrative opportunity for producers. The rise of an aging population, increased birth-rate and better awareness about hygiene among women in developing countries is driving the demand in the medical textile market. Increasing access to better healthcare facilities and medical tourism are further expected to boost the growth rate of this market through 2017.

#### Protective Apparel

North America emerged as the leading regional market for industrial protective apparel and accounted for over half of the total market volume in 2013. Stringent regulatory guidelines coupled with high levels of safety awareness in the industry are expected to drive the regional market growth over the next six years.<sup>8</sup>

A key factor driving growth in protective apparel is rapid industrialization and implementation of stringent industrial safety regulations in emerging markets. These measures are having a positive effect on the use of technical textiles, thus creating yet another opportunity for U.S. exports.<sup>9</sup> The Asia Pacific is expected to be the fastest growing regional market for industrial protective apparel at an estimated CAGR of 12 percent from 2014 to 2020.<sup>10</sup>

#### **Global Industry Landscape**

The technical textile industry is one where applications, technologies and companies are constantly changing, and therefore, exports tend to change as well. The demand for technical textiles in many countries is growing, causing existing markets to expand and also leading to new ones. As the market share of technical textiles consumed in the emerging economies relative to textile products overall is increasing, many countries meet their domestic demand for many of these advanced textiles through imports. This creates a major opportunity for U.S. producers. U.S. producers can take advantage of these gaps and meet the needs of emerging economies through exports.

North America is the largest regional consumer of technical textiles due to the presence of the majority of end-use industries. Europe and Asia Pacific follow North America in terms of current consumption; however, development in emerging markets, including India, China, Japan, Korea and Taiwan, is expected to increase overall technical textile demand.

Korea and Taiwan in particular are both committed to focusing on technical innovation. Korea and Taiwan are also strong competitors with the United States in the global technical textile market, but there are still positive opportunities for U.S. producers.

Large scale infrastructure developments are taking place in China, India and Russia, and environmental protection regulations and building construction codes are evolving in these countries. As a result, these markets are expected to be where the strongest gains will occur in the near future. China will be the dominant market because of the amount of available land in the country, the size of its population and the number of large scale infrastructure projects which are under way and planned for the future. The increase in demand in the Chinese market is expected to account for almost half of the increase in global demand.<sup>11</sup> All indications are that the applications and markets for U.S. produced technical textiles in foreign markets will continue to evolve and grow. As current applications continue to validate the use of technical textiles, more opportunities will be created for even newer applications.

## Challenges and Barriers

When designing export promotion strategies, one must be mindful of the challenges facing U.S. technical textile exporters in international markets. First, protectionist policies, like high tariffs and the imposition of non-automatic import license requirements, limit demand for products exported from the United States. Brazil and India have used some form of protectionist policies to limit opportunities for foreign manufacturers to compete in their markets.

Second, foreign competition and continual investment in research and development can pose additional challenges to U.S. producers. If U. S. producers are not continuously innovating, it can open the door for producers of other countries. Constantly advancing and updating current products as well as developing new ones are a requirement for success in technical textiles. New product development, however, is not an easy task.

Third, lack of transparency by foreign customs agencies also has a negative effect on U.S. exports. The requirements of extensive documentation and unclear regulations could slow the flow of trade and lead to processing delays.

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<sup>1</sup> Barrie, Leonie. "What's Happening with Apparel Sourcing?" Just Style Research. January 6, 2016.

<sup>2</sup> "Vietnam: The emerging giant in textiles & clothing". Fiber2fashion.com.

<sup>3</sup> "Textiles 2015: More Improvement Ahead." Textile World. Jan/Feb 2015.

<sup>4</sup> "Textiles 2015: More Improvement Ahead." Textile World. Jan/Feb 2015.

<sup>5</sup> "Filtration Market Update." Nonwovens Industry. November 2015.

<sup>6</sup> "Textiles 2015: More Improvement Ahead." Textile World. Jan/Feb 2015.

<sup>7</sup> Shishoo, Dr. Roshan. "High –performance textiles and nonwovens are targeted for growth." Specialty Fabrics Review. March 2011.

<sup>8</sup> "Industrial Protective Clothing Market Analysis and Segment Forecasts to 2020." Grandview Research. 2014.

<sup>9</sup> "Industrial Protective Clothing Market Analysis and Segment Forecasts to 2020." Grandview Research. 2014.

<sup>10</sup> "Industrial Protective Clothing Market Analysis and Segment Forecasts to 2020." Grandview Research. 2014.

<sup>11</sup> "Strong growth set to continue in geosynthetics market". Innovationintextiles.com. June 2013.