

# PERSPECTIVE



## Quebec's textile industry embraces technology

Quebec's textile industry is light years from where it was in the early 2000s. While part of the province's output remains in traditional textiles, the industry is changing and adopting new technologies. To get there, it partnered with researchers to develop new client segments and fine-tune innovative products. It also made the bold move to focus on value-added technical textiles. Expect an uphill battle, however, primarily due to the labour shortage. The renegotiation of the North American Free Trade Agreement (NAFTA) could mean the loss of benefits gained during the previous round of negotiations, and it threatens the advances made by Quebec businesses in the U.S. market. Quebec's industry has a fresh face and is on the offensive. Staking its claim is a smart move.

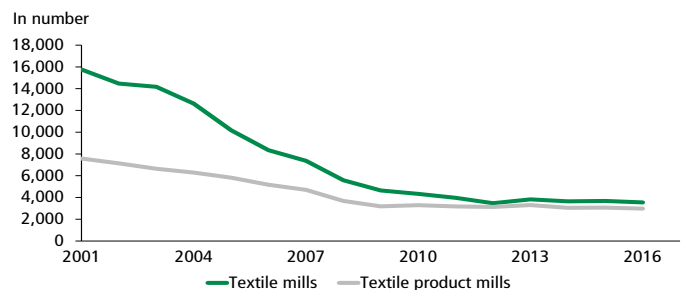
### An industry bent on reinventing itself

The textile sector<sup>1</sup> (textile mills and textile product mills) has undergone significant changes since the turn of the millennium. Several events forced the industry to redefine its activities and turn toward technology and niche products; among these was the decision made by Canada in 2003 to eliminate all tariffs and quotas for 48 of the least developed countries. That the textile industry was one of the major strengths in these countries is worth noting. In fact, the transition period for reducing import quotas on textiles and clothing, based on the agreements reached by the World Trade Organization, expired on January 1<sup>st</sup>, 2005. This means that Canada could no longer safeguard its industry as it had previously done, which put the sector on the defensive against its competitors.

The industry had to grapple with more than just changes to trade rules. Quebec's textile sector had to deal with intensifying competition and a fast-rising Canadian dollar. This flood of factors hindered the province's mills and literally sapped Quebec producers' domestic and export markets. The signs of struggle in Quebec's industry are quite visible. The number of workers plummeted between 2001 and 2010 (graph 1). Textile mills suffered the most. That said, the number of workers since 2010 has stabilized, and the GDP managed to stem the bleeding as of that same year (graph 2). An uptick was even recorded in 2014 and 2015.

**GRAPH 1**

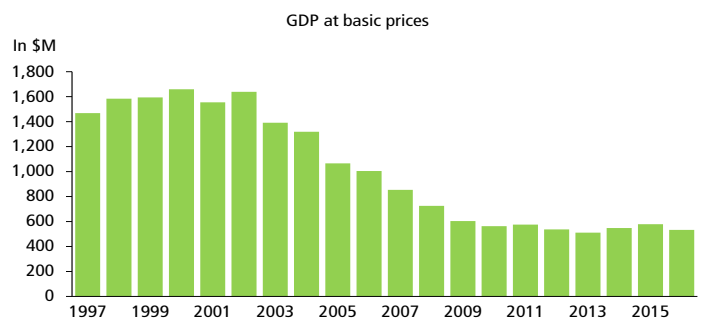
**The number of workers in Quebec's textile industry is stabilizing**



Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 2**

**The GDP of Quebec's textile mills and textile product mills fell to a low in 2013**



Sources: Statistics Canada and Desjardins, Economic Studies

<sup>1</sup> Textile mills (NAICS 313) include the following: Fibre, yarn and tread mills, fabric mills, textile and fabric finishing mills, textile products except knitted clothing. Textile product mills (NAICS 314) include textile furnishings mills (carpets, rugs, curtains and linens) and other textile products (textile bags, embroidery, cords for reinforcing tires, etc.).

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NOTE TO READERS: The letters k, M and B are used in texts and tables to refer to thousands, millions and billions respectively.

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The textile industry, a pillar of Quebec's manufacturing sector for many decades, took the hit and opted for a transformation. Mass textile production was dropped in favour of making specialized products for specific uses. The industry took itself in hand. Much thought across the country went into redirecting production toward value-added technical textiles. The details of these developments will be discussed later.

### Industry snapshot

How many companies are still working in Quebec's textile industry? According to Statistics Canada, 297 companies were active in the industry in December 2016 (table 1 on page 3), the bulk of which, 182, were textile product mills. This industry is an SME environment; 70.4% of companies have fewer than 20 employees and only six have more than 200 workers. The industry had just over 6,500 workers in 2016, on average (3,548 in textile mills and 2,974 in textile product mills).

Historically, the textile industry and labour have been largely clustered in three regions of Quebec: Montreal, Montérégie and Chaudière-Appalaches. That's not to say that the industry is absent in other parts of the province. Up until very recently, Quebec had three niches of excellence stemming from the ACCORD<sup>2</sup> initiative, which were set in the Montérégie (advanced flexible materials), Chaudière-Appalaches (technical textile materials) and Centre-du-Québec (technical textiles) regions. To improve coordination, these three niches were merged into one in the summer of 2017.

### An ambitious game plan

In the wake of the shakedown affecting the textile industry in the early 2000s, Canada's entire industry took stock of its strengths to develop a strategy to salvage this segment of the economy. The outcome was a bold game plan, the "Technology Roadmap for the Canadian Textile Industry (and Other Value-Added Textiles)." This enabled the industry to channel its energies and identify niches that would help Canada's textile sector stand out from the competition and ensure its longevity.

Quebec's industry is gradually showing a new face. While some traditional activities remain, the industry is focusing on developing and producing "value-added" technical textiles. Technological innovations have made it possible to develop new fabrics and yarns made with new properties to meet multiple uses in the medical and healthcare fields, the environment, sports and recreation, transportation, clothing, personal protection, agriculture, construction and packaging, to name just a few applications. Indeed, usage and measured performances are

features that are specific to technical textiles. These textiles are everywhere today. Sometimes they can be seen (seat coverings, bandages, reflective surfaces on clothing, antimicrobial mattress covers, for example), but they are usually out of view (fuel and air-intake filters, air bags, tire reinforcements, smart fabrics to capture vital signs and GPS positioning in the field, etc.). The primary idea is to use a textile solution to meet a need.

The textile sector's decompartmentalization, which the loss of traditional markets made necessary, opened the door for researchers and a workforce with different and more advanced educational backgrounds. Research on materials (properties and resistance, for example) led to a melding with other areas of application (for instance, microelectronics). Discussions on needs in different areas of life, such as health, the environment and safety, opened markets that had been rarely or not at all served by Quebec companies. Nevertheless, when it comes to technical textiles, Europe is front and centre. Companies in Germany and France have been leaders in this area for some time.

Quebec's industry offers a broad range of products, from health and medical to geotextiles, sports and recreation, transportation, clothing, personal protection (mainly against fire, chemical agents and toxic materials), agriculture, packaging and construction, to name a few.

Research is driving the textile industry's move into these areas of activity. Quebec-based industrial companies have a few allies in their corner, such as Saint-Hyacinthe-based CTT Group. For over 30 years, CTT Group has been helping companies research and develop new products. It also analyzes the properties and performance of materials and helps companies market high-value-added products. A team of researchers, scientists and technicians at CTT Group perform tests in the company's laboratories. In fact, in 2012 the Natural Sciences and Engineering Research Council of Canada, in collaboration with industry leaders, set up an innovative technical textiles research chair at the Cégep de Saint-Hyacinthe. This chair can count on the support of the École de technologie supérieure. Furthermore, the industry as a whole can count on the Centre design et impression textile for its support—it's been helping Quebec develop its expertise in creating and printing textiles for more than 30 years.

The game plan adopted by the industry opened the door to several other sectors and markets, and fostered the development of niche products. Innovations have given the industry a fresh new face. Exports have stopped freefalling and have been recovering gradually since 2013 (graph 3 on page 3). Worth noting, the average value of the loonie was US\$0.971 that year, compared to US\$0.757 in 2016. We can assume that the gains made are not entirely due to a weak Canadian dollar.

The shift by Quebec's industry to high-value-added technical textiles is excellent news—this niche is experiencing the fastest

<sup>2</sup> Ministère de l'Économie, de la Science et de l'Innovation: "The ACCORD (concerted action for regional cooperation in development) capitalizes on the strength of Quebec's regions and encourages them to strive for excellence in Quebec's key sectors. It also helps bring together business people and entrepreneurs in the same region, who have a shared vision of their industry and will establish a long-term strategy to promote it."

**TABLE 1**  
**Number of businesses in Quebec, based on workforce size – December 2016**

	EMPLOYEES								Total
	1 to 4	5 to 9	10 to 19	20 to 49	50 to 99	100 to 199	200 to 499	500 and more	
Textile mills	39	20	11	17	11	12	5	0	115
Textile product mills	55	48	36	28	11	3	1	0	182

Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 3**  
**Quebec's exports on the rise since 2013**



Sources: Statistics Canada and Desjardins, Economic Studies

growth right now. The market is huge and is expected to grow at warp speed, based on the global growth estimates released by U.S. and British research firms (table 2). Research is still the lifeblood of this industry.

**TABLE 2**  
**Market outlooks for technical textiles, based on various research firms**

IN US\$B	MARKET ESTIMATES	
	CURRENT	FUTURE
MarketsandMarkets (2015)	144.1 (in 2014)	193.9 (in 2020)
Global Industry Analysis Inc. (2015)	n/a	168.3 (in 2020)
Credence Research (not specified)	143.0 (in 2014)	n/a
Allied Market Research (2014)	158.4 (in 2015)	244.0 (in 2022)

n/a: not available  
 Sources : MarketsandMarkets, Global Industry Analysts Inc., Credence Research, Allied Market Research et Desjardins, Études économiques

### Try and try again

The current changes are not taking place in a silo, however, and we would be wrong to believe that every company in the textile sector is busy upending its production. Regardless of whether companies work in technical textiles or not, all companies are facing major challenges. Not seen as an industry of the future, this sector is not on the public's radar.

Like in other industrial sectors, finding workers is difficult and has been for years. On one hand, workers who are retiring need to be replaced. On the other, the industry has to find those rare gems who will be able to adapt to complex new processes and equipment. The growing complexity of tasks is ramping up skill requirements. How do you recruit graduates in the textile sector if training is no longer offered at the college level? For its part, the Comité sectoriel de main-d'œuvre de l'industrie textile developed training to support companies in making the transition. At the industry's request, a training program consisting of five modules was established for workers currently in the industry. Training on industrial sewing machines is also offered for those seeking re-entry into the workforce. Some companies are counting on experienced workers to transfer their knowledge to new recruits. Despite all these initiatives, the demand for labour is very high, if not urgent.

At the same time, investments must be made. Changing textile production type calls for new equipment. Automation requirements are growing as businesses strive to cut costs, increase productivity and, at times, compensate for the labour shortage. Furthermore, companies have to make the digital shift in order to trade with business partners, and this also requires investments.

The outcome of the ongoing NAFTA negotiations could also affect the industry. Based on the terms of the current agreement, Canada and Mexico can adopt Tariff Preference Levels (TPL) that authorize industry players to use inputs from sources outside of NAFTA. This allows producers to be more competitive and export to other member countries using a preferential customs tariff. This aspect of the agreement is being questioned by representatives of the U.S. textile industry. In the absence of these TPLs, Canadian and Mexican producers would have to pay higher costs, which would reduce their attractiveness on the U.S. market. The stakes here are quite high.

Apart from the considerations surrounding the NAFTA renegotiations, the high cost of certain materials is also a challenge, especially for technical textiles. We have to be able to manufacture and sell at competitive prices. Lastly, at a time when the environment is an increasing concern, the disposal of waste and other materials is another issue we have to address.

**On the offensive**

The textile industry might have seemed ready to throw in the towel with all the upheavals it experienced since the turn of the millennium. Some of the more traditional players in Quebec's textile industry are clearly in defensive mode vis-à-vis their competitors, but they continue to fight. Others are relying on new technologies to deliver on their promises. These companies are on the offensive. The turnaround in Quebec's industry is ongoing, mainly because not all companies have embraced the transformation, but also because innovation is a never-ending process. The textile industry has a bold new face. Staking its claim is a smart move.

**Joëlle Noreau**, Senior Economist