Copenhagen Economics

EUROPEAN TEXTILES' GLOBAL VALUE CHAIN

Report commissioned by EuroCommerce

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Copenhagen Economics is an expert-driven consulting company built on a deep knowledge of applied economics, and one of the leading economics firms in Europe. We believe sound economic analysis can equip decision makers with hard facts and clear stories to make better choices for the benefit of society.

In line with common practices in our professional services field, our research process is structured as follows:

- The client selects the research question.
- We analyse and address the question to the best of our knowledge.
- The findings and conclusions are our own.

The independence of our professional services is ensured via a diversified portfolio of business, spanning public sector and private clients across industries. For further information, see **www.copenhageneconomics.com**.

We remain available for and appreciate any questions or comments.

Foreword

by EuroCommerce

As European retailers and wholesalers, we connect our customers to a rich diversity of apparel, footwear, and home textile products. In doing so, we create significant economic value and employment and provide an important channel for cultural expression. Yet, public discourse often oversimplifies our sector's contribution and is unaware of the nuanced reality of how our global value chain operates.

To address these challenges, we asked Copenhagen Economics to deliver an independent, a fact-based analysis of the global textiles supply chain for products sold to consumers in Europe. This report explains how our supply chain operates, outlining key roles and challenges its stakeholders face. By addressing the impact of EU legislation on our sector's operations, the report aims to help effective policy design and encourage cross-sectoral collaboration.

The report captures the current state of our sector and its development. It explores the interwoven challenges and opportunities of our global supply chains, including:

- their environmental and social challenges,
- how they benefit local economies,
- the administrative burden resulting from fragmented legislation
- the transformative potential of sustainability innovation.
- the interdependence of countries and of companies
- how collective efforts are crucial to driving progress.

This report focuses on data and facts about our global value chain. As a result, it does not provide insights into our sector's broader contribution. Textiles and apparel have long been instruments of cultural identity and social cohesion and strong contributors to lively local communities. City and town centres need clothing and apparel shops to feel like vibrant, thriving places to live. We are an integral part of local life, offering jobs, enhancing local quality of life, making cities attractive, and providing a sense of security.

Like in any sector, there is a spectrum of approaches to sustainability. In recent years, standards have been rapidly progressing, and a growing part of our sector is increasingly committed to sustainability initiatives. Several of these initiatives are mentioned in the report. They illustrate how voluntary initiatives, alongside legislative frameworks, advance environmental and social objectives.

The path forward requires balance. Rapid transformation, if poorly designed, will unduly burden customers and employees and undermine the competitiveness of EU retailers in the EU market. We advocate for well-designed, data-informed, and data-driven policies that acknowledge the complexity of our supply chain and its global nature.

Equally important are high-quality impact assessments for new policies in our sector, including their impact outside the EU. These assessments should be mindful of the specific challenges arising from the globalised nature of trade in apparel, footwear, and home textiles.

The EU can only craft effective, forward-looking solutions by fully taking on board the interlinked challenges and benefits of our globalised business models. As companies operating in global value chains with activities in many different countries, we advocate for internationally harmonised rules. As a general principle this benefits companies, customers and employees. Yet, we also acknowledge that local realities can vary a lot, meriting local rules for local circumstances.

Our sector, though not without its challenges, is rapidly evolving to meet the demands of a world in transition. We thank Copenhagen Economics for delivering a fact-based report and the EuroCommerce members who supported the process.

We hope this report will help spark thoughtful discussions and informed decisions. Let this be the start of better mutual understanding and collaboration, ensuring the European textiles and apparel sector remains a global leader and a growing force for positive change.

Preface

The European[1] textile sector (also referred to as 'the sector' in this report) is a large sector in the EU, producing almost 1 per cent of EU GDP[2] when including the full value chain.[3]

The European Commission has identified textiles as a priority sector in need of actions to ensure circularity and decarbonisation[4] and has therefore introduced initiatives and regulation that affect the sector's operations.

The EuroCommerce believes that fostering a nuanced understanding of the global textile value chain is essential for productive public discourse and effective policy design.

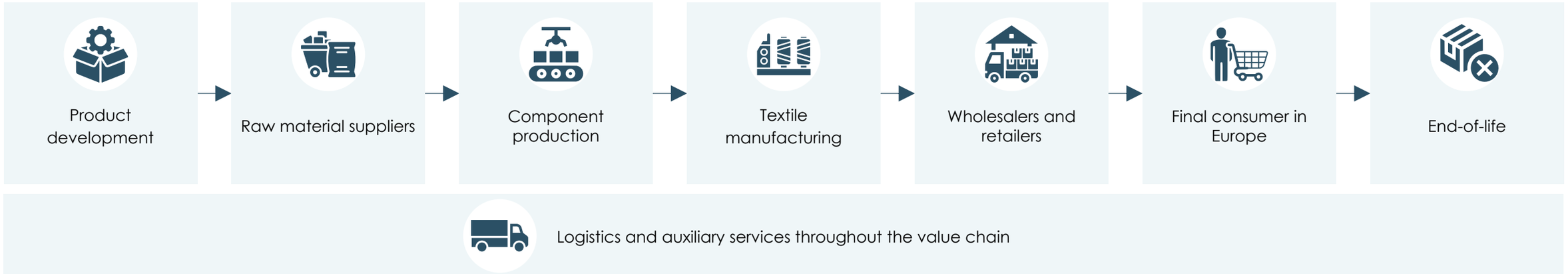
On this backdrop, EuroCommerce asked Copenhagen Economics to provide an external perspective on the functioning of the European textile sector's global value chains and to answer the question:

> **"How does the European textile sector's global value chain operate, and why?"**

In this report, we focus on textile products spanning apparel, footwear, and home textiles.

Together with EuroCommerce, we define the European textile sector as the entire value chain that leads to ***final textile demand in Europe***.[5] This includes a global value chain starting from product development and ending with end-of-life (see illustration).

Defining the European textile value chain



(1) In this report, Europe/European refers to the EU and the UK. See appendix C for the full list of countries. / (2) See definition of GDP and value added in glossary on next page. / (3) These include direct and indirect value added, see Copenhagen Economics (2020), link. / (4) See European Commission (2024a), link. (5) Within the sector, there are many roles of brands, with distinctions such as monobrand and multibrand retail, as well as the role of agents.

In our analysis, we rely on both qualitative and quantitative information. In our **qualitative** analysis, we have conducted ten interviews with different stakeholders in the sector, covering large retail and textile companies, SMEs, and textile manufacturers. We supplement this with extensive desk research, and we draw on economic theory to complement and contextualise our findings.

In our **quantitative** analysis of the sector's economic footprint, we set up a global economic input-output model.[1] This model helps us understand the European textile sector's economic interlinkages with other industries and regions.

While the focus of the report is on the *European* textile sector, its value chain is *global*. Thus, we also analyse impacts, benefits, and challenges outside of Europe, exemplified by the value added, exports etc. that the sector supports in other regions. We supplement our model findings with other statistics, including trade statistics.

This report describes the implications of EU legislation on the European textile sector's operations. It does not provide specific policy recommendations, and it does not address, nor assess, specific business models in the sector.

The report is structured in three chapters:

1. The textile value chain operations and value creation
2. Challenges for the textile sector
3. Competitiveness and opportunities in the sector

Glossary	Description as used in this report
Comparative advantage	The ability of a region to carry out a particular economic activity relatively more efficiently than another activity.
EBA	Everything but Arms. An EU initiative with ensures duty- and quota-free imports from the least developed countries.
Europe	Europe/European refers to the EU and the UK in this report.
FTA	Free trade agreements between two or more trading partners typically lowering import tariffs and non-tariff barriers, such as customs clearance.
GDP	Gross domestic product. An economic measure for the value created in producing goods and services in a country.
GSP	Generalised Scheme of Preferences. An EU initiative to lower tariffs for select countries.
Interdependence	Mutual dependence of participants in an economic system, who trade in order to obtain the goods they cannot produce themselves.
Large companies	Companies with 250+ persons employed.
Microenterprises	Companies with fewer than 10 employees (not assessed in report).
R&D	Research and development.
Reshoring	Bringing production back to a region after it had been previously offshored to other regions.
SMEs[2]	Small and medium-sized enterprises with 10-250 employees.
Value added	Covers wages and company profits, which are the main components of GDP.
Vertically integrated retailer/brand	A company that controls multiple stages of its supply chain, from production to sales.
Sector description	**Description of each sector's operations in the textile value chain[3]**
Agriculture	Provides raw materials like cotton, and wool, which are inputs for the textile industry.
Financial services	Support the textile value chain through funding, loans, and investments.
Logistics	Ensures the efficient transportation of raw materials, semi-finished, and finished textile products.
Textile manufacturing	Transforms raw and intermediate materials into yarn, fabric, and finished textile products.
Wholesale and retail trade	Serve as the bridge between manufacturers and end consumers for finished textile products.
Real estate	Provides the buildings required for textile production, warehousing, and retailing facilities.
Administrative support	Ensures smooth auxiliary service operations in the textile value chain.
Professional services	Provides services such as design, consulting, and marketing to the textile industry.

(1) See appendix C for a methodological description of our input-output model. / (2) Simplified definition. There are other elements to the official SME definition. / (3) Based on NACE rev. 2 definition, see appendix F for a description.

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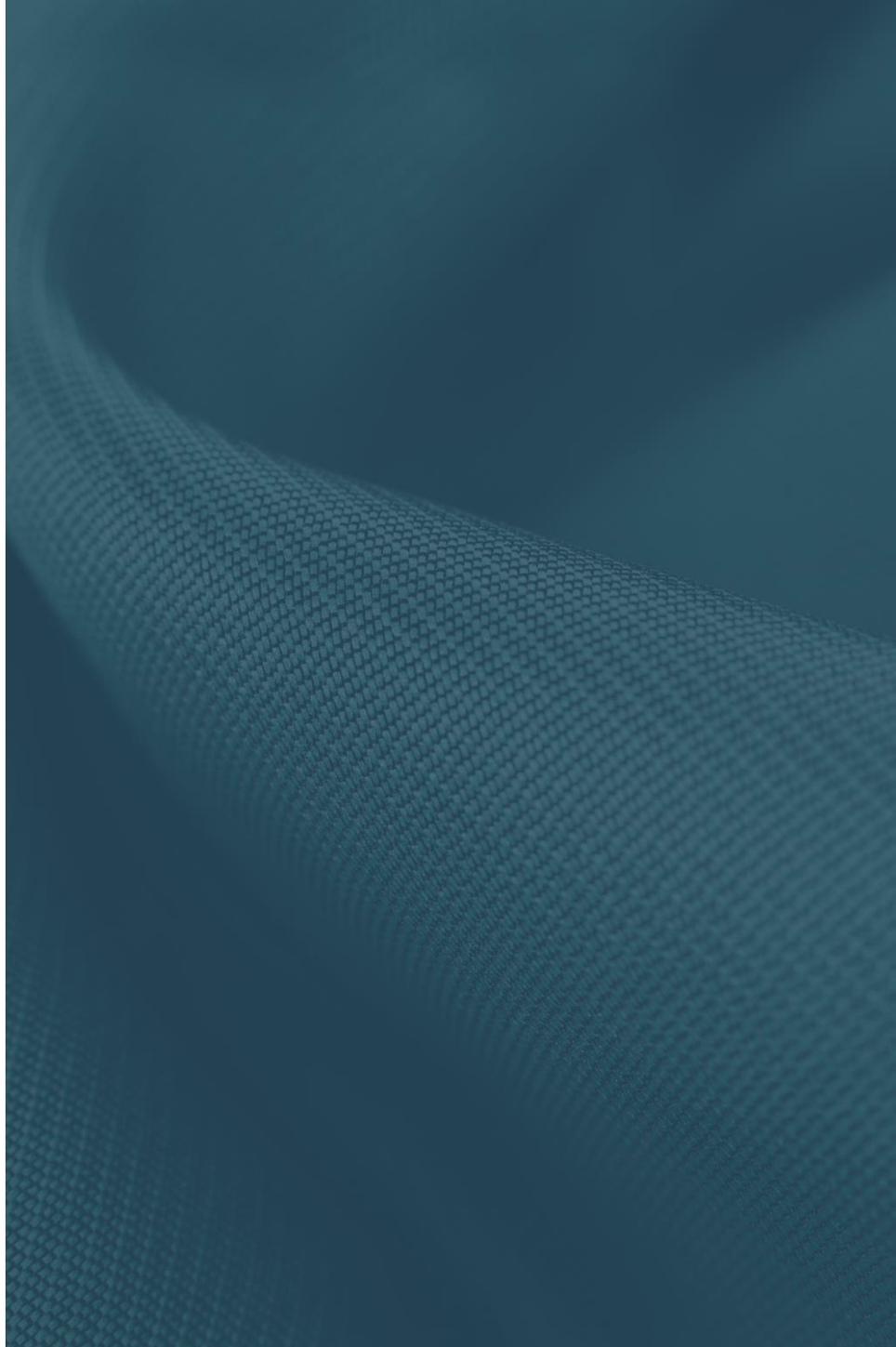


Executive summary

The European textile sector's value chain is complex with global operations taking place across several industries

The European textile sector produces a range of products, including apparel, footwear, and home textiles for various uses.

Product development and design of textiles typically take place in Europe, whereas manufac-turing is predominantly based in Asia and to a lesser extent in Northern Africa, Turkey, and Europe.[1]

In many cases, European textile companies do not manufacture textiles themselves. They source from factories in sourcing countries, using a variety of contracts ranging from short-term agreements to long-term partnerships and joint ventures.

Following production, the textile products are shipped to wholesalers and retailers in Europe that sell the textile products either in classical brick-and-mortar retail stores, via e-commerce, or both.

Like many other sectors, the European textile sector's value chain has become increasingly international[2]

The value[3] and volume of European import and export of textiles has risen substantially since 2000, partly due to the EU's trade agreements, which have provided developing countries with a possibility to grow within textile manufacturing and sell in the EU.

European *imports* of textiles have almost doubled in volume from 9.8 million tonnes in 2000 to 17.4 million tonnes in 2022,[4] most of which come from Asia.

Similarly, European *exports* of textiles have increased by more than a third in the same period.[5]

Most of the sector's value creation is within Europe

The sector has a large global economic contribution, totalling EUR 189 billion in value added[6] in 2023, of which 86 per cent was produced in Europe.

The sector also supports value added and jobs in lower-middle-income countries *outside* Europe. These jobs include workers in textile manufacturing and raw material production in Asia and North Africa. In 2023, the European textile sector contributed EUR 15 billion in value added in Asia and EUR 13 billion in the rest of the world.

Locational choices are based on comparative advantages

The *location* of different parts of a value chain comes down to comparative advantages. In the textile value chain, regions with plentiful labour, like many Asian countries, focus on labour-intensive tasks such as producing raw materials and manufacturing textiles. On the other hand, regions with a highly skilled workforce, such as Europe, specialise in the more highly productive and complex parts of the value chain.

Diverse production markets and local political risks in third countries add complexity

While global value chains foster specialisation and economic development, the complexities of having multi-tiered supply chains across several production markets present challenges for transparency in the supply chain and increase the operational costs for textile retailers and wholesalers.

Companies experience local political risks in textile production markets in third countries, including political instability and geopolitical risks. Some companies choose to mitigate these risks by sourcing from multiple production countries.

Reshoring textile manufacturing to Europe would result in increased costs of textiles in Europe

The EU is not cost-competitive in traditional textile manufacturing of *non-specialised* products. However, EU countries are competitive for *specialised* textile production.

Some now argue[7] for 'reshoring' traditional textile manufacturing to Europe to improve value chain transparency and make it easier to implement sustainable practices. Reshoring is most likely an expensive and cost ineffective solution[8] for textile manufacturing for several reasons:

- Textile manufacturing capacity in Europe is low.
- Manufacturing costs are higher in Europe.
- Textile manufacturing is a low-margin, labour intensive industry, whilst Europe currently faces labour shortages which are projected to increase in the coming decades.[9]
- Reshoring restricts the potential for third countries to grow their manufacturing industry.

(1) European production mainly specialises in spinning, weaving and fabric production as well as in specialised garment production, for instance wool in Italy. / (2) This phenomenon is not unique to Europe, but it has been a global trend for several decades. / (3) Values are in constant 2023-prices. / (4) Most of the trade is not-knitted apparel, knitted apparel, and footwear. / (5) Refer to appendix E for overview on products covered. / (6) Value added consists of wages and company profits which are the main components of GDP. / (7) See Interreg Europe (2023), link. / (8) Reshoring goes counter to the benefits of comparative advantages and lowers the benefits of trade. / (9) European Commission (2023), link.

The sector must overcome several obstacles to become more sustainable

The complexities of a global value chain add challenges for the sector to produce more sustainably, as in other industries.

In its value chain, the textile sector uses large amounts of resources of land, water, and energy, resulting in a large environmental footprint. In addition, only around 10 per cent of textiles are currently recycled in the EU,[1] and current EU sorting- and recycling capacities are too low to handle future targets.

Some parts of the European textile sector are adapting business models and making investments to become more sustainable in an evolving landscape of consumer expectations and political developments. New recycling innovations and investments are needed for Europe to succeed in creating a more sustainable value chain and increasing the recycling rates of textiles, along with clear, standardised rules.

The rapid shift in legislation brings implementation challenges and uncertainty to the sector

To ensure a sustainable transition of the sector, the EU is implementing new regulations. The EU Strategy for Sustainable and Circular Textiles sets the foundation for a sustainable transition.

Enforcing the proposed initiatives and regulations effectively is essential to guarantee fair competition in the transition towards a sustainable, circular sector with stable, predictable, and coherent framework conditions.

However, new EU legislation[2] adds additional uncertainties and increased costs to textile and retail companies:

1. The *extent of new legislation adopted during a short period* adds a lot of initial investment costs and continuous compliance costs, also for suppliers outside of the EU.
2. Contrary to EU regulations, the implementation of EU directives in EU member states risks resulting in *different systems across the EU*, complicating the transition.
3. Uncertainty as to the design of, e.g., the ESPR[3] criteria and short implementation periods add uncertainty and costs to textile companies.

SMEs experience specific challenges due to their size

SMEs experience relatively higher regulatory compliance costs, difficulties accessing affordable financing, higher per-unit production costs, limited brand recognition, and weaker bargaining power. Given these challenges, SMEs are at a disadvantage compared to larger companies when it comes to complying with the new EU rules. For example, investments in new systems and compliance could add relatively large upfront costs to SMEs.

European companies are globally competitive in several highly productive parts of the value chain

While the sector is facing several challenges, European companies have remained competitive in highly productive parts of the textile value chain, including R&D, design, quality control, and marketing, which support prosperity in Europe.[4]

The labour-intensive production is now in Asia[5] where raw materials and textiles are produced more cost-effectively, as several Asian countries have comparative advantages in these parts of the value chain. The rise of the textile sector in Asia also brings benefits to Europe. In 2020, Asian textile companies purchased goods and services in Europe worth EUR 11 billion, primarily inputs from wholesale and retail services and manufacturing goods, including textile manufacturing, machinery, and equipment.

Going forward, the European textile sector has opportunities in innovative parts of the value chain

The sector has an opportunity to grow in highly productive parts of the value chain such as design, marketing, R&D, and professional services.

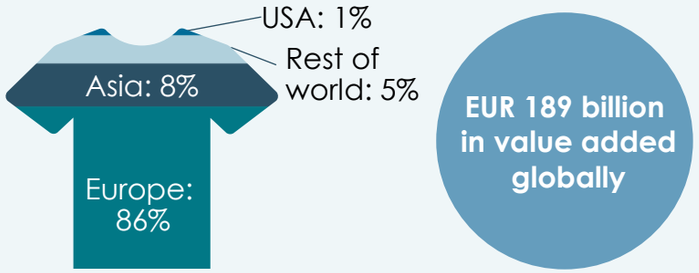
The sector can also play an important role in pioneering sustainable practices and solutions to lower emissions and to promote sustainable practices outside of Europe. New opportunities for Europe also lie further upstream in the value chain, such as production of advanced technical equipment and machinery for sustainable textile production and recycling.

Investments and innovations are needed for further development of the European textile sector to become more sustainable and remain competitive going forward.

(1) McKinsey & Company (2022), link. / (2) See pages 29-30 for a table of regulations, directives and their implementation. / (3) Ecodesign for Sustainable Products Regulation. / (4) For a more detailed description, see chapter 3. / (5) And to a lesser extent in North Africa.

Our findings at a glance

The distribution of value from final textile products sold in Europe, 2023



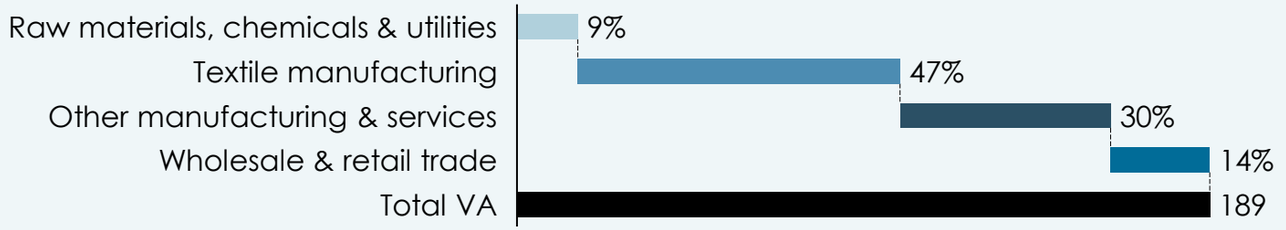
EUR 189 billion in value added globally

The sector supports 3.2 million jobs in Europe[1]

The sector faces multiple challenges

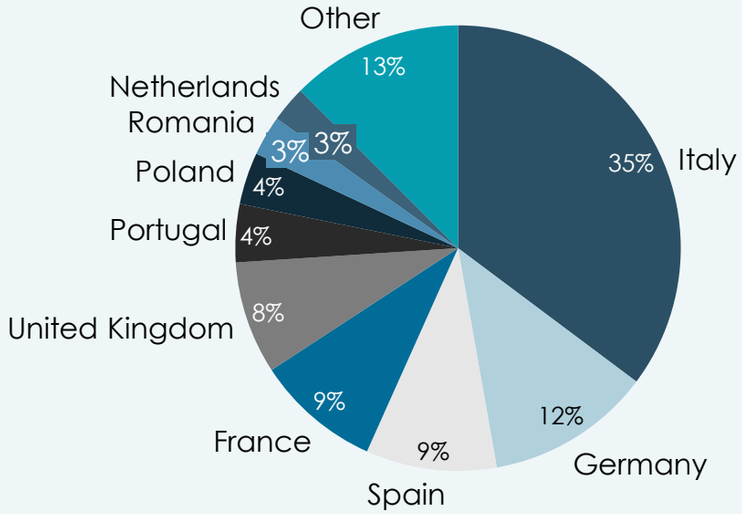
- Complex global value chains
- Geopolitical situation
- Producing sustainably
- Regulatory complexities and compliance costs
- SMEs specific challenges

European textile sector's global value added by industry, 2023
Billion EUR (2023-prices) and percent of total



Value supported by the European textile sector in the European countries in 2023
Billion EUR, percent

EUR 161 billion in value added supported within Europe in 2023
(86 percent of the sector's value added globally)



1) The European textile sector operations support jobs for people employed directly in textile companies and through their supply chain

THE TEXTILE VALUE CHAIN OPERATIONS AND VALUE CREATION

Chapter 1

In this chapter, we analyse and describe the functioning of the European textile sector,[1] and how it operates within its global value chain. We also show the European textile sector's economic contribution in different industries and countries.

The value chain begins with **product development**, after which the manufacturing process starts from **raw materials**, through **component production** and **textile manufacturing**, to **wholesale and retail**, before the product reaches the **final consumer** (see illustration on next page). **Logistics and services**, such as transportation, distribution, and auxiliary services[2] are present between every step in this value chain. In each step of the value chain, the sector contributes with economic activity and jobs.

The sector produces a range of products, including apparel, footwear and home textiles for various uses. Textiles are used in household products for clothing and furniture and for corporate and manufacturing uses.

Product development and design of textiles typically take place in Europe, where several textile companies have their headquarters.

Textile manufacturing primarily takes place in Asia, North Africa, and there is some production in Europe as well.

Typically, European textile retailers and wholesalers do not produce textiles themselves but instead have comprehensive setups for sourcing of textiles from multiple textile manufacturers in several countries. These manufacturers operate on short- or long-term contracts depending on the needs of the textile retailers and wholesalers. Long-term partnerships and joint ventures are also used in the sector.

Following production, the textiles are shipped to Europe to wholesalers and retailers that sell the products, either in classical brick-and-mortar retail stores, via e-commerce, or both.

When textiles are discarded, they enter the **end-of-life** phase. In the EU, less than a third are reused or recycled directly, and the rest ends in household waste.[3] We explore the end-of-life phase in more detail in Chapter 2.

The European textile sector's global value chain is complex

(1) We define European textile sector as the whole value chain that leads up to *final textile demand in Europe*. / (2) For example, digital services are increasing important for the sector, with digital platform development, new digital solutions for waste treatment, application of artificial intelligence in design etc. / (3) 18 per cent of textile waste comes from manufacturing losses and unsold goods, the rest is post-consumer waste.

Illustration of the textile value chain

- R&D
- Design

Product development

- Yarn
- Trims
- Fabric

Component production

- Sales through brick-and-mortar/ e-commerce
- Marketing

Wholesalers and retailers

- Collection/sorting
- Reuse or recycling
- Incineration and landfills

End-of-life

Raw materials

- Natural fibres
- Synthetic fibres
- Secondary recycled materials

Textile manufacturing

- A variety of textile products
- Contracted producers
- Partnerships and joint venture
- Own production

Final consumer

- Individuals
- Companies
- Other

Logistics throughout the value chain

Note: Simplified version of the value chain. We go more in-depth with parts of the value chain in this report.

The textile manufacturing supply chain has several production processes

It is difficult for consumers to fully grasp the complexities that go into producing the variety of products that textile retailers and wholesalers offer to their customers.

Textile retailers and wholesalers source their materials from multiple sourcing markets. Each sourcing market specialises in certain products using different raw materials and know-how in production.[1]

In the first steps, several **raw materials** are produced for manufacturing textiles (see illustration on next page). These materials include natural fibres such as cotton and wool products from agriculture but also man-made fibres including polymer products such as nylon and polyester, which are made from petrochemicals.

In the next steps of the production process, the materials are processed in **component production**, such as yarn spinners, knitting & weaving, dyeing, printing, and trimming.

Then, textiles products are finished in **textile manufacturing**, where the items are cut and sewn into the textile products that the textile retailers and wholesalers request based on their designs.

Suppliers of textile retailers and wholesalers can be EU or non-EU based and are categorised in multiple tiers[2] covering for example:

- In some cases, textile retailers and wholesalers use 'Tier 0' suppliers who act as **agents** on their behalf.
- 'Tier 1' consists of textile product **manufacturers** that the retailers and wholesalers deal with directly, or through agents.
- 'Tier 2' covers suppliers in **component** production.
- 'Tiers 3' and beyond include suppliers in **raw material** production.

The number of tiers is important for the level of transparency in the supply chain. **More tiers increase the complexity** for textile retailers and wholesalers to monitor the production processes in the manufacturing supply chain. Typically, retailers and wholesalers only have direct relationships with tier 1. Therefore, the control and transparency are lower for higher tiers.

Some textile and retail companies use suppliers that are more vertically integrated, but this is not feasible for all types of textile products, as raw material needs and specialisation differ between products.[3]

(1) Based on information from interviews / (2) There is no standard definition of 'tier', and every company uses their own tier system. For some companies in the textile sector, the supply chain is more integrated with fewer suppliers and tiers. This is driven by achieving scale and lower per unit costs. This information is based on the interviews. / (3) Based on information from interviews.

Illustration of a typical supply chain for producing textiles

Raw material production	**Agriculture** Raw cotton Wool	**Ginning** Separation of cotton fibres	**Recycling** Raw recycled material inputs	**Fibre producer** Polymers (polyester, nylon, etc.)	Tier 2-5
Component production & processing	**Yarn spinner** Yarn	**Knitting & weaving** Cotton	**Fabric/yarn dyeing, printing & finishing**	**Trims**	
Textile manufacturing		**Garment wash**	**Cutting, sewing, finishing**		Tier 1

Note: Inspired by H&M Group (2023), link.

The sector has become increasingly international

Access to trade is key for the European textile sector as it operates within international value chains. Raw materials, components, and textile products are traded across borders before they reach the final consumers.

The presence of European textile retailers and wholesalers in sourcing and production countries is a product of globalisation. The Multi-Fiber Arrangement[1] and EU trade agreements have, among other developments, led to this globalised value chain, which, in turn, assisted developing countries in growing their textile manufacturing and serve the EU market.

The value and volume of European imports and exports of textiles has risen since 2000 (see figures):

- European imports of textiles have increased by 82 per cent from **EUR 124 billion** in 2000[2] to EUR **226 billion in 2022**.[3]
- European exports of textiles increased by 22 percent from **EUR 64 billion** in 2000 to **EUR 78 billion** in 2022.[4]
- The volume of European imports of textiles increased by 78 percent from **9.8 million tonnes** in 2000 to **17.4 million tonnes** in 2022. Most of these imports come from Asian countries.
- European textile exports have also increased by 37 percent in the period from **5.1 million tonnes** in 2000 to **7.0 million tonnes** in 2022.

EU import tariffs influence the value chain and EU trade. These tariffs vary across countries. For example, there are no import tariffs on textiles produced in Turkey[5] and Bangladesh,[6] whilst imports from China are subject to tariffs that vary based on the type of textile product, ranging from 5 per cent to 12 per cent.[7]

Continued access to open trade is essential for the sector to enable efficient resource allocation and maintaining smooth global supply chains. For many years, the EU has successfully improved trading relations with countries by lowering trade barriers with Free Trade Agreements (FTAs),[8] the Generalised Scheme of Preferences (GSP, GSP+, EBA),[9] and other trade and investment liberalisation measures.

Value of European imports and exports of textile products, 2000-2022

Billion EUR (2023-prices)

Volume of European imports and exports of textile products, 2000-2022[10]

Million tonnes

Note: Figure shows trade in textiles, clothing and footwear by EU 27 and the UK excluding intra-EU-UK trade. Values of trade are converted from USD to EUR using average annual exchange rates and are adjusted for inflation. Refer to the appendix for details on product classes included.

Source: Copenhagen Economics based on Eurostat (2024) and BACI (2023).

(1) See Investopedia (2023), link. / (2) Measured in 2023-prices. / (3) Most of this is not-knitted apparel, knitted apparel, and footwear (based on value). / (4) A large part of this is not-knitted apparel, knitted apparel, and footwear (based on value). / (5) Turkey is part of the EU Customs union. / (6) Bangladesh is included in the GSP system. / (7) European Commission TARIC Database (2024), link. / (8) E.g., the FTA with Vietnam. / (9) Including India, Pakistan, and Bangladesh./ (10) Top five non-European importers of European textile products in 2022 were The United States, China, Turkey, South Korea and Hong Kong.

Most of the sector's value added is created within Europe

The European textile sector is economically significant, providing employment and contributing to European GDP. One measure of economic significance is **value added**, which consists of wages and company profits, which are also the main components of gross domestic product (GDP).[1]

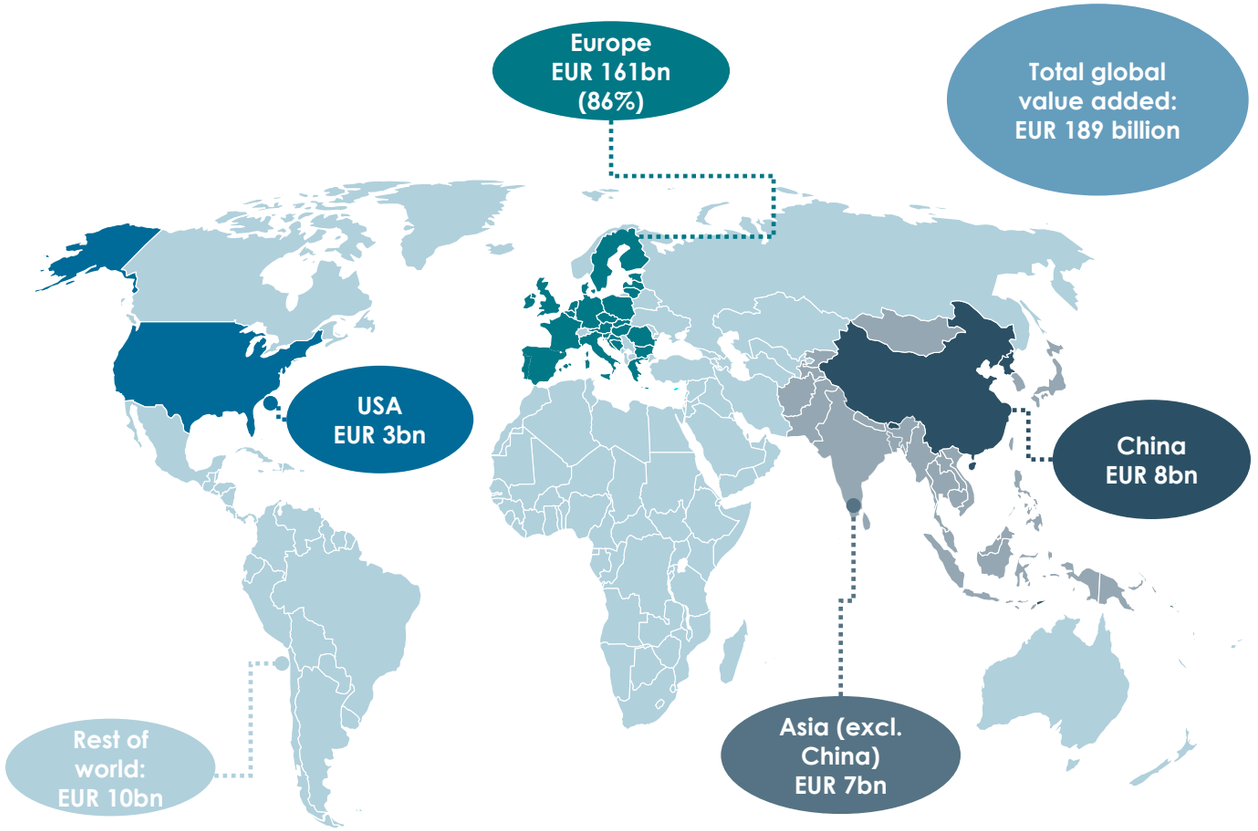
The sector has a large global economic contribution, totalling **EUR 189 billion** in value added globally in 2023, of which **EUR 161 billion** was produced in Europe (see figure), equivalent to around 0.8 per cent of European GDP.[2]

This means that **86 percent** of the value added of a textile piece sold in Europe in 2023 was also created in Europe. This number has remained fairly constant over time.[3]

The sector also supports economic activity outside of Europe. In Asia, the sector supported EUR 15 billion in value added in 2023 (contributed to GDP). Being the largest economy in the region, China is the primary location with **EUR 8 billion** in value added, but value added is also supported in India, Pakistan, Bangladesh, Indonesia, and Vietnam, where the sector has a higher relative importance in the local economies. Most of this value creation pertains to textile manufacturing and production of raw materials.

Europe is an important market for some of the countries in Asia, North Africa, and Turkey,[4] as textile production is a source of external income through exports. For example, **60 per cent** of textile exports from Bangladesh go to Europe, see page 20.

Distribution of European textile sector's value added by region in 2023



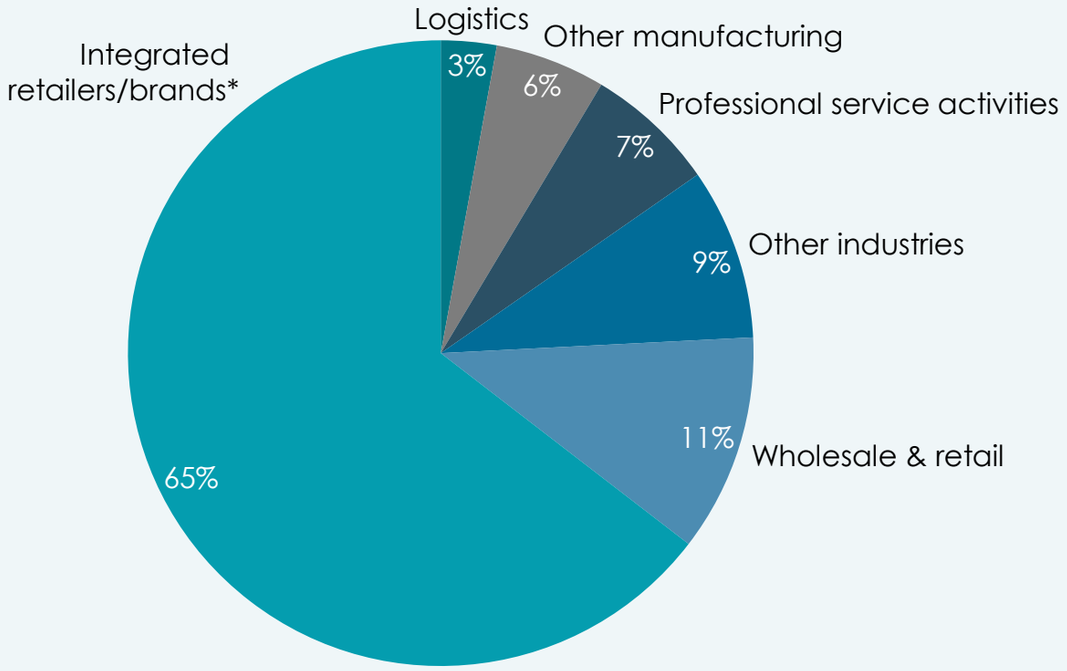
Note: Chart is for illustrative purposes and makes no statement on geographical or territorial claims.
Source: Copenhagen Economics' own calculations based on OECD data.

(1) Thus, value added is a direct contributor to GDP. / (2) The combined GDP in the EU and the UK. / (3) See Copenhagen Economics (2013), link. / (4) North Africa and Turkey are covered in 'Rest of world' in the figure.

The European textile sector supports jobs and economic activity in Europe

Jobs supported in Europe by the European textile sector in 2023
Number of jobs and percent

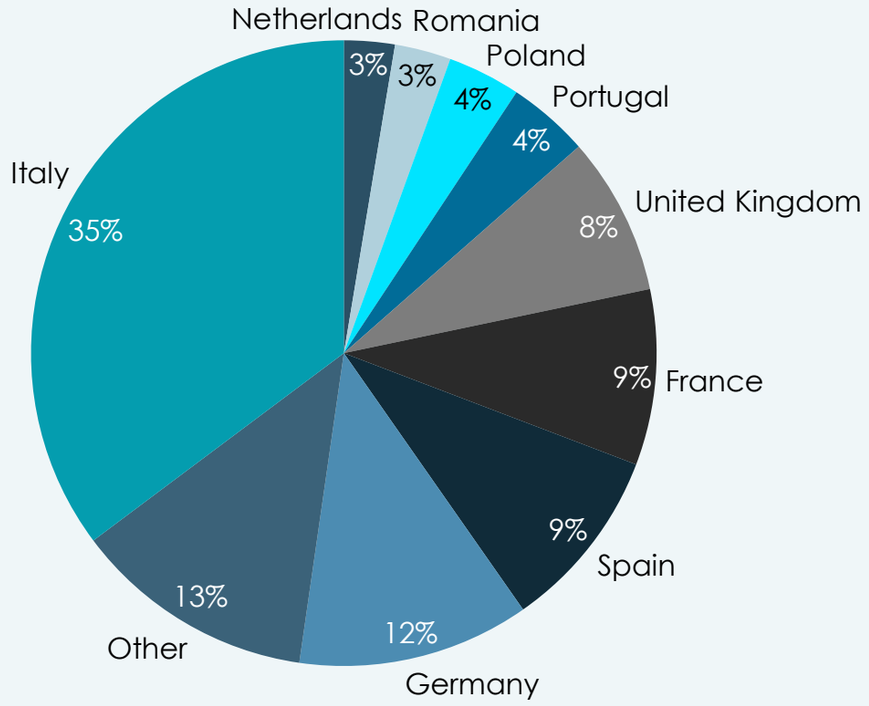
The European textile sector operations support **3.2 million jobs** in Europe, for people employed directly in textile companies and in the supply chain.



*Note: *We use "Integrated retailers/brands" instead of the original statistical term "Textile manufacturing", as this category covers vertically integrated companies . The numbers cover jobs within Europe that are supported in the parts value chain that operate in Europe. Jobs in pure wholesale & retail are under "Wholesale & retail". "Other industries" refers to agriculture, mining, utilities and other services. Refer to Appendix F for a description of the industries.*
Source: Copenhagen Economics based on OECD (2023), Eurostat (2024b) and Eurostat (2024c).

Value supported by the European textile sector in the European countries in 2023
Billion EUR and percent

The European textile sector operations support **EUR 161 billion** in value added[1] in European countries.



Note: Refer to Appendix F for a description of the industries.
Source: Copenhagen Economics based on OECD (2023).

(1) Value added consists of wages and company profits, which are the main components of GDP.

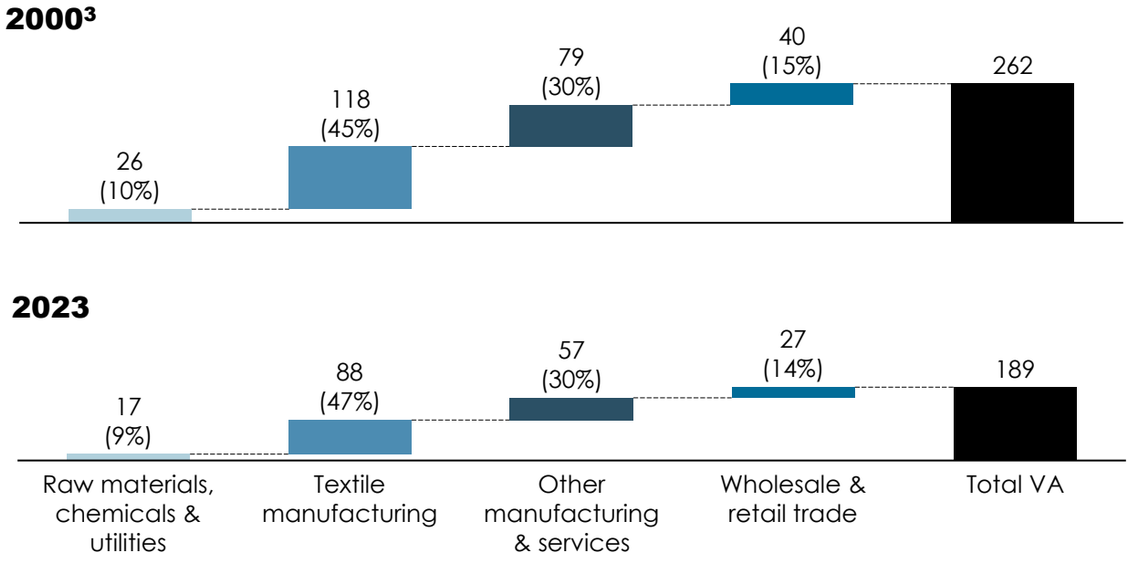
The value contribution from the sector has declined since 2000

While the European textile sector has a significant economic contribution in Europe and in its sourcing locations, its global value contribution has declined from **EUR 262 billion** in value added[1] in 2000 to **EUR 189 billion** in 2023 (see figures).

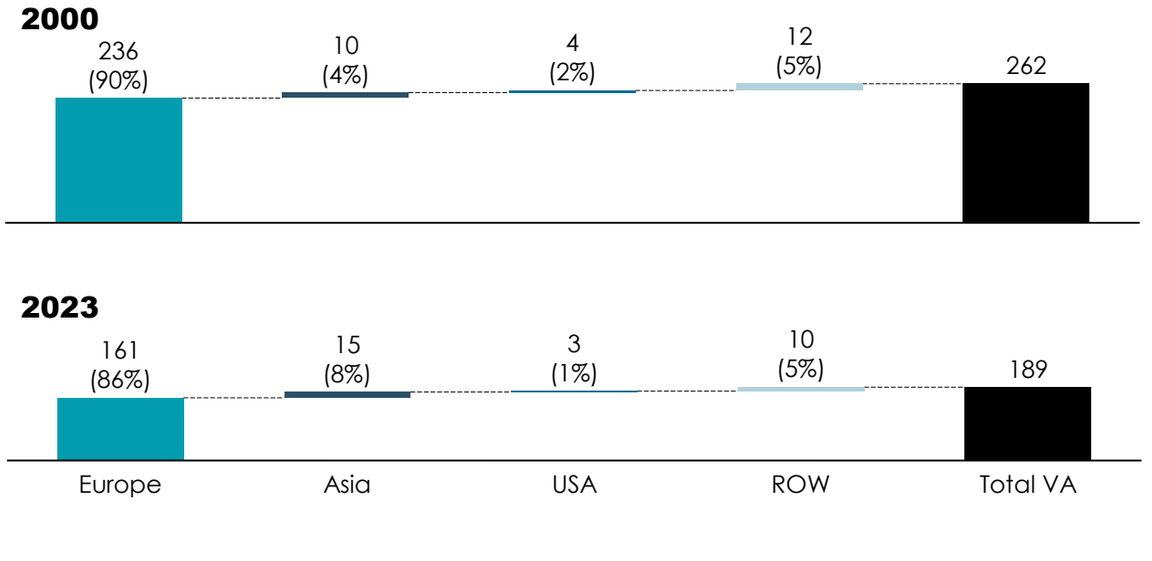
This decline originates from a sharp decrease in the financial crisis around 2008-2009. Since 2010, the value added has generally increased in the sector, with a decline during COVID-19. The decline is seen in lower value added in all industries, covering raw materials, textile manufacturing, wholesale and retail, and other.

In 2023, the value added contributed was **EUR 161 billion in Europe**, which was a decline from **EUR 236 billion** in 2000 (see figure).[2] In the same period, the value added supported in Asia by the European textile sector has grown from **EUR 10 billion** in 2010 to **EUR 15 billion** in 2023.

European textile sector's global value added *by industry*, 2000-2023
Billion EUR (2023-prices) and percent of total



European textile sector's global value added *by region*, 2000-2023
Billion EUR (2023-prices) and percent of total



Note: Values may not add up to the totals due to rounding. Values for 2023 are based on updating the input-output tables of 2019. Refer to the methodological appendix for details. Refer to Appendix F for a description of the industries.
Source: Copenhagen Economics' own calculations based on OECD data.

(1) Value added consists of wages and company profits, which are the main components of GDP. / (2) However, the total value added has increased since 2010. / (3) In current prices, the total value added was EUR 162 billion in 2000. The large difference to these numbers is due to inflation when converting into constant 2023-prices.

Geographic specialisation is a product of comparative advantages

Globalisation, specialisation, and production scale are the main reasons why the European textile sector has become increasingly internationalised in recent decades.

The geographical placement of the different parts of a value chain depends on comparative advantages (see figure below) and political stability considerations.

In the global textile value chain, because of **comparative advantages**,[1] regions with abundant labour and relatively lower labour costs focus on labour-intensive tasks like raw material production and textile manufacturing (e.g., in Asia and North Africa).

Meanwhile, regions with highly skilled workforces specialise in less labour-intensive, more technically advanced elements in the value chain (e.g., in Europe), covering for example R&D, design, advanced manufacturing.

Different regions therefore invest in different parts of the value chain, increasing the scale, specialisation, and know-how in these parts of the value chain, resulting in more efficient production and larger economic benefits.

Increased globalisation through trade and foreign direct investments also leads to increased **interdependence** among different regions.

This means that different regions create a mutual reliance on each other for prosperity and stability, which can lower the risk of conflict[2] and increase possibilities to promote positive economic and sustainable development.

However, interdependence also creates vulnerabilities,[3] as disruptions in one country can impact other countries.

Illustration of comparative advantages

(1) Based on the theory of comparative advantages first developed by 19th century economist David Ricardo. / (2) Gartzke et al (2001), link. / (3) Interdependence can become a challenge in certain situations. For example, if European countries become dependent on important product imports from certain countries, as exemplified with Russian energy following the war in Ukraine.
Note: Comparative advantages and interdependence are explained further in Appendix D.

The sector supports economic development in Asian and North African countries

The European textile sector supports economic activity in lower-middle-income countries, primarily in Asia, North Africa, and Turkey due to the sector's global value chain. The value that the sector generates in these countries supports economic activity through local value added, exports, and jobs. These jobs cover primarily blue-collar workers in textile manufacturing and jobs in raw material production.

China, Turkey, India, Pakistan, Bangladesh, Vietnam, and Morrocco are some of the main contributors to the European textile sector's global value chain outside of Europe.

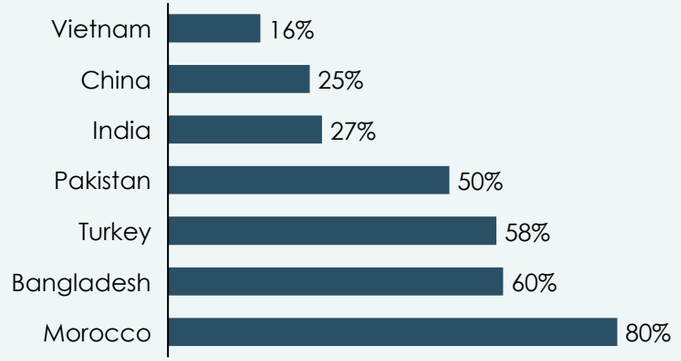
The European textile sector activities help the local economies to grow through trade. We find that in 2020, **50-80 per cent** of the textile exports from Pakistan, Turkey, Bangladesh and Morocco went to Europe (see figure).

When looking at overall economic significance, the sector has increased the supported value added in the production countries since 2000 (see figure). Especially in China, the value added supported increased from **EUR 2.0 billion** in 2000 to **EUR 8.2 billion** in 2023.

Through its global value chains, the sector supports jobs in these countries. The job creation helps local families to ensure a source of income, although the minimum monthly wages differ substantially across geography. Minimum wages are generally higher in China and India than in Pakistan and Bangladesh (see figure below).

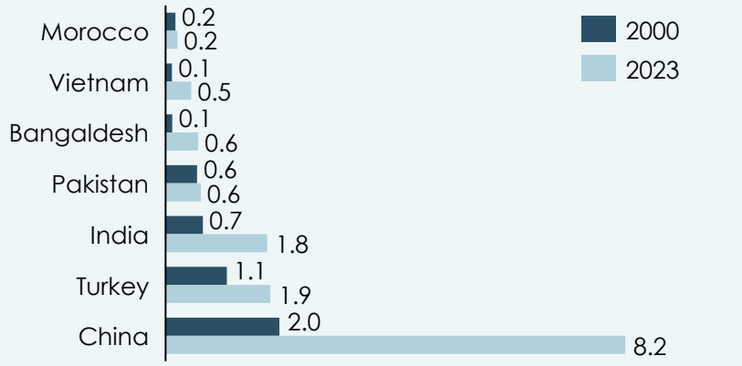
Jobs in manufacturing products for export, such as textiles, generally receive higher wages than those producing only for the domestic market.[1]

Share of textile exports that go to Europe by select countries, 2020
Per cent



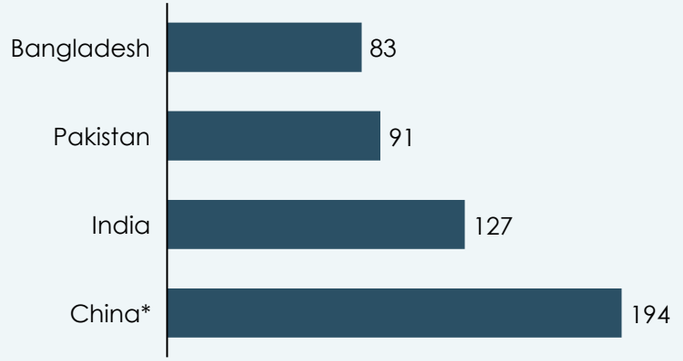
Source: Copenhagen Economics based on BACI (2023)

European textiles value added supported in select countries, 2000-2023
Billion EUR (2023-prices)



Source: Copenhagen Economics based on OECD (2023).

Minimum monthly wages in the textile industry in select countries, 2020[2]
EUR



Note: *2019 data.
Source: Statista (2022).

(1) Using firm level data, one study finds 31 percent higher wages in exporting companies compared to non-exporting companies in developing countries, see CEPII (2015), link. / (2) It has not been possible to identify minimum wages in the textile industry over time.

CHALLENGES FOR THE TEXTILE SECTOR

Chapter 2

The European textile sector faces several challenges

The European textile sector is undergoing changes to become more sustainable in an evolving political landscape. In this chapter, we examine the challenges that the sector faces, as well as the framework conditions that govern the sector.

We group the challenges into four categories: global value chains, sustainability, framework conditions, and SME-specific challenges, see table.[1]

While **global value chains** are a source of specialisation and economic development, the complexities of having multiple-tiered supply chains across several production markets lower the transparency and increase the controlling costs for textile retailers and wholesalers.

On top of this, the geopolitical situation in some regions, such as Yemen[2] or Ukraine, can affect the textile sector and its supply chains. Potential trade wars are an additional risk to the textile sectors' international value chains, as is a political push to reshore textile manufacturing.

The complexities of the global value chain also present challenges for the sector to produce more **sustainably**.[3] A more sustainable, circular production needs to follow the life cycle from the design and raw materials to the end-of-life of textiles. In this life cycle, there are multiple challenges for the sector.

To ensure the sustainable transition of the sector, the EU is implementing new rules. Regulating the textile sector with targeted and harmonised legislation can be an effective tool to ensure a level playing field in the transition towards a sustainable, circular sector with stable, predictable, and coherent **framework conditions**.

Legislation will only be successful if it is not only well-intentioned but also well-designed. This requires a deep understanding of the global value chain in all its aspects, including local political and socio-economic realities, the complexities and costs of developing, sourcing, and scaling sustainable alternatives, and the operational challenges of digitally sourcing, tracking, and verifying data across the global value chain.

The regulatory framework conditions in the EU are changing from a previously low level of regulation, rapidly increasing complexities and compliance costs, adding new challenges to the textile sector.[4]

Finally, SMEs in the European textile sector value chain experience **SME-specific challenges** due to their size.

In this chapter, we go through these challenges.

Challenges in the European textile sector

Global value chains	• Complex supply chains • Diverse production markets • Geopolitical situation • Local political challenges
Sustainability	• Need to increase innovation rate and uptake of sustainability and circularity • Textile end-of-life
Framework conditions	• Regulatory framework conditions
SME-specific challenges	• Relatively higher regulatory compliance costs than for large companies • Difficulty accessing affordable financing • Higher per-unit production and trade costs • Limited brand recognition • Weak bargaining power with partners • Dependence on few suppliers and/or customers

(1) When addressing challenges and risks, companies typically adopt the OECD risk scoping guidelines. See OECD (2018a), link. / (2) For example, shipping routes through the Red Strait are affected by the conflict in Yemen. / (3) While the textile sector has challenges with sustainability and circularity with high greenhouse gas emissions and water consumption, the sector also has an opportunity to promote sustainable practices globally, see chapter 3. / (4) While the sector needs to overcome these new regulatory framework conditions, they also offer new opportunities for the European textile sector, see chapter 3.

Diverse production markets and local political risks add complexity to textile supply chains

Textile retailers and wholesalers are faced with key decision points in their sourcing strategy and risk management:

On one hand, sourcing from few large-scale suppliers of textiles *in one country* is **easier to handle** and more transparent, than having multiple suppliers across *multiple sourcing locations* (see figures).

Additionally, few large suppliers may **lower costs** due to increased production scale, and it is easier for the company to ensure **transparency** in the value chain.[1]

On the other hand, being too reliant on suppliers in *one* country increases the company's risks in terms of **local political risks and disruptions in supply.**[2]

These include for example:

- Political instability, such as regime changes, civil unrest, or labour strikes.
- Geopolitical instability and protectionist trade measures introduced by governments can increase costs or limit access to certain markets.
- Corruption or bureaucratic inefficiencies can further complicate local business transactions, creating uncertainty and delays.

The political risks incentivise textile companies to diversify their sourcing and manufacturing locations while closely monitoring the political landscape and transparency in the countries in which they operate. However, multiple sourcing locations increase the **costs associated with monitoring** the supply chain.[3]

In addition, having multiple sourcing locations increases the possibility for textile companies to be **agile in the market** and respond faster to market demand changes.

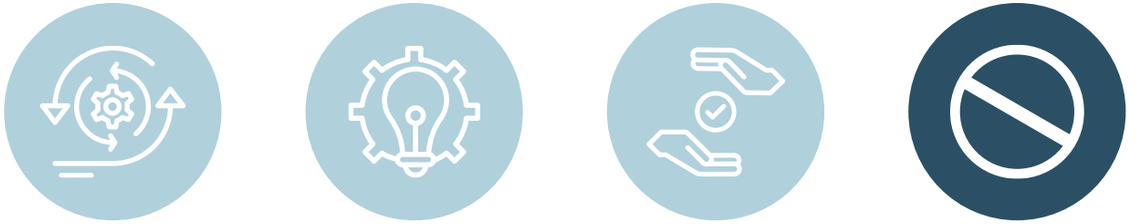
Geographical diversity in production also gives textile companies an opportunity to **access more specialised skills**, such as specialised production processes in different production markets.

Having diverse production markets also means that it is essential for textile companies to have good trading opportunities with multiple local production markets. EU Free Trade Agreements and the GSP[4] arrangements are strong political tools that enable this trade.

Impact from having few large-scale suppliers

Easier to handle | Lower costs due to scale | More transparency in the value chain | More exposed to local political risks and disruptions in supply

Impact from having multiple sourcing locations



Market agility | Greater access to different specialised skills | More trading opportunities | Higher costs and lower transparency in handling suppliers

(1) I.e., further upstream in the supply chain, tier 2, tier 3, and so on. / (2) Textile companies create risk profiles of their product categories, and the countries which they source from. / (3) In addition, operating in countries with less stringent labour standards than the EU, there is a higher risk of poor labour conditions, see SOMO (2024), link. Multistakeholder initiatives aim to improve transparency across the value chain by supporting their members in complying with ethical labour standards, for example AMFORI, Ethical Trading Initiative, and Cascale. / (4) Generalised Scheme of Preferences. An EU initiative to lower tariffs for select countries.

Wide-scale reshoring of basic textile manufacturing would likely result in increased costs of textiles in Europe

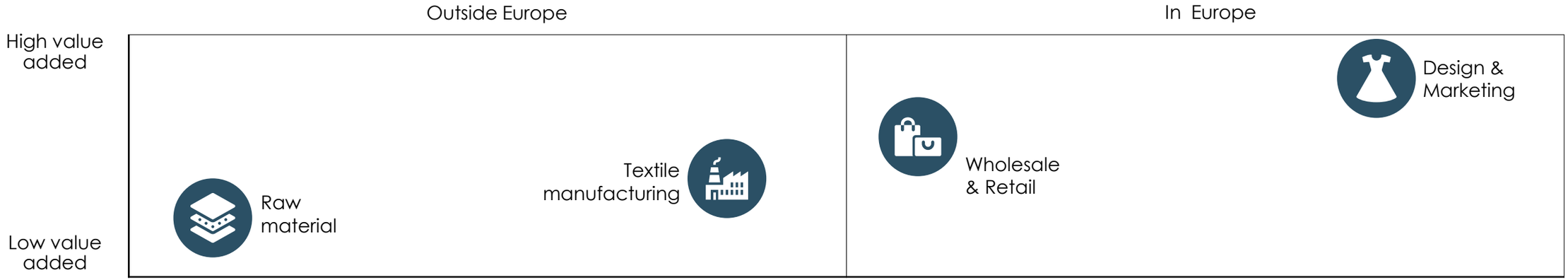
Some EU institutions now argue[1] for a reshoring[2] or nearshoring of textile manufacturing to Europe, i.e., moving textile manufacturing to Europe. The reasoning for this is to improve value chain transparency and make it easier to implement sustainable practices.

While there are reasonable arguments for reshoring certain sectors,[3] **reshoring is a potentially expensive and ineffective solution for textile manufacturing** for several reasons:

- The current textile **manufacturing capacity is much lower** in Europe than in Asia and North Africa.
- The **manufacturing costs are much higher** in Europe than in current production markets,[4] which would result in increased consumer prices for textiles in Europe, for the current level of quality and sustainability of textiles.
- It can also be problematic to reshore relatively labour-intensive industries with low margins to Europe, due to **Europe's current labour shortages**, which are expected to increase in the coming decades.[5]
- European companies have specialised in high-value added parts of the value chain (see figure). To move towards more low-value added parts of the value chain would be an **economically inefficient** solution for Europe, as it would crowd out resources to these high-value-add activities.
- Reshoring textile manufacturing **lowers the opportunities for lower-middle income** countries to grow their manufacturing industry and have a source of export to improve the balance of trade.

Countries such as Bangladesh would likely be hit economically from a reshoring of European textile manufacturing, as 60 per cent of Bangladesh's textile exports go to Europe. In fact, reshoring might be seen as a protectionist action, which would hamper the EU's more general aim to lower trade barriers.[6]

Illustration of the competitive situation for the sector



1) Interreg Europe (2023), link. / 2) Reshoring means bringing production back to a region after it had been previously offshored to other regions. / 3) Typically due to national security concerns or security of supply (e.g., for infrastructure, energy, weapons, semiconductors, food, medicine). See for example the EU's framework for foreign direct investment screening, which outlines key sectors, see European Commission: *Investment screening, link*. / 4) McKinsey & Co (2018), link. / 5) European Commission (2023), link. / 6) European Union: Trade: Towards open and fair world-wide trade, assessed on November 27, 2024.

There are several environmental challenges in the textile value chain

The textile sector has a significant environmental impact, resulting from its complex global value chain that involves resource extraction, production, distribution and end-of-life.[1] Similar patterns of impact are seen in other production sectors with global value chains.

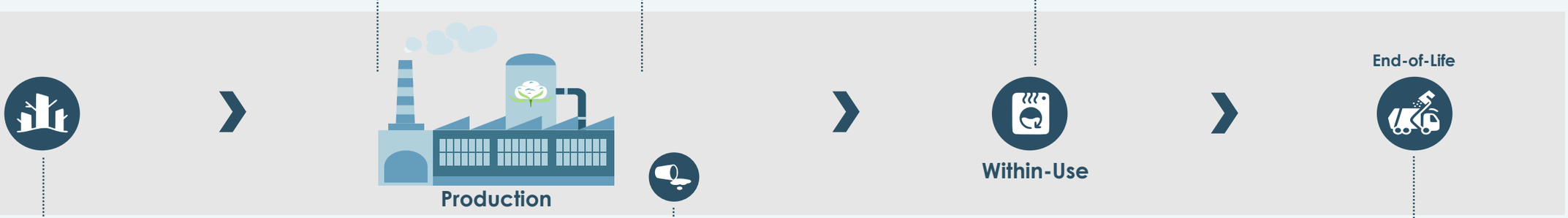
Environmental challenges across the textile value chain

The global textile sector has an environmental impact amounting to up to **10 per cent** of global carbon emissions.[2]

121 million tonnes of CO_2 emissions produced by textile products consumed in the EU in 2020.[3]

Producing one cotton t-shirt is estimated to require **2,700 litres of fresh water.**[4]

One wash of polyester clothes can release **700,000 microplastic fibres**.[5]



180,000 km² of land used across the supply chain of textiles purchased in Europe.[2]

The global sector is responsible for **20 percent of global clean water pollution**.[2]

Two-thirds of textiles end up in **household waste**.[6]

The European Environment Agency indicates that the environmental impact of textile consumption in the EU per person in 2020: 400 square metres of land, 9 cubic metres of water and 391 kg of raw materials, causing a carbon footprint of 270 kg.[7]

(1) Many initiatives are in place to tackle the environmental footprint of the textile sector. These are further explained on pages 39-40. / (2) European Environment Agency (2022), link. / (3) CO_2 emissions are partly a result of inadequate renewable energy in the production countries. There are regulatory, financial, technological, infrastructural, and geographic barriers that constrain more sustainable apparel production in some production countries. European Parliament (2024), link. / (4) European Parliamentary Research Service (2024), link. / (5) European Parliamentary Research Service (2019), link. / (6) European Environment Agency (2024a), link. / (7) European Environment Agency (2024b), link.

End-of-life textile recycling: several obstacles to overcome in Europe

There are three main destinations for the end-of-life for textiles: Reuse,[1] recycle, or disposal (incineration or landfill). Waste can be generated at different points throughout the value chain, covering manufacturing waste, post-consumer waste, and unsold textiles once they become waste.

Currently, 18% of EU textile waste is generated from manufacturing losses or from the unsold textiles that turn into waste.[2]

Most textile waste is post-consumer waste. In 2019, the **majority of this was incinerated or ended in landfill**, while around 20 per cent was collected separately (see figure on the next page). This collection was distributed as follows:

- Among the **collected** waste, more than half was **sorted** within the EU, while the remainder was **exported** outside the EU.
- The **sorted** textile waste was either **exported** or **recycled**.
- For the **exported** waste, about half was reused outside the EU and a fourth was **recycled**.

For textile recycling, textile waste needs to be collected, sorted, and undergo complex recycling processes. Textiles are often a mix of different natural and man-made fibres in different colours and perhaps with buttons, zippers, or prints on them, complicating the process.

Around **10 per cent of textile fibres are currently recycled** in closed- or open-loop recycling in Europe.[3] Today, less than 1 per cent of textile fibres are recycled *fibre-to-fibre* in Europe, whilst approximately 9 per cent are open-looped recycled. The fibre-to-fibre recycling rate is expected to rise to 18–26 per cent by 2030, and when the recycling market is fully mature, and up to 70 per cent of textile waste could be fibre-to-fibre recycled.

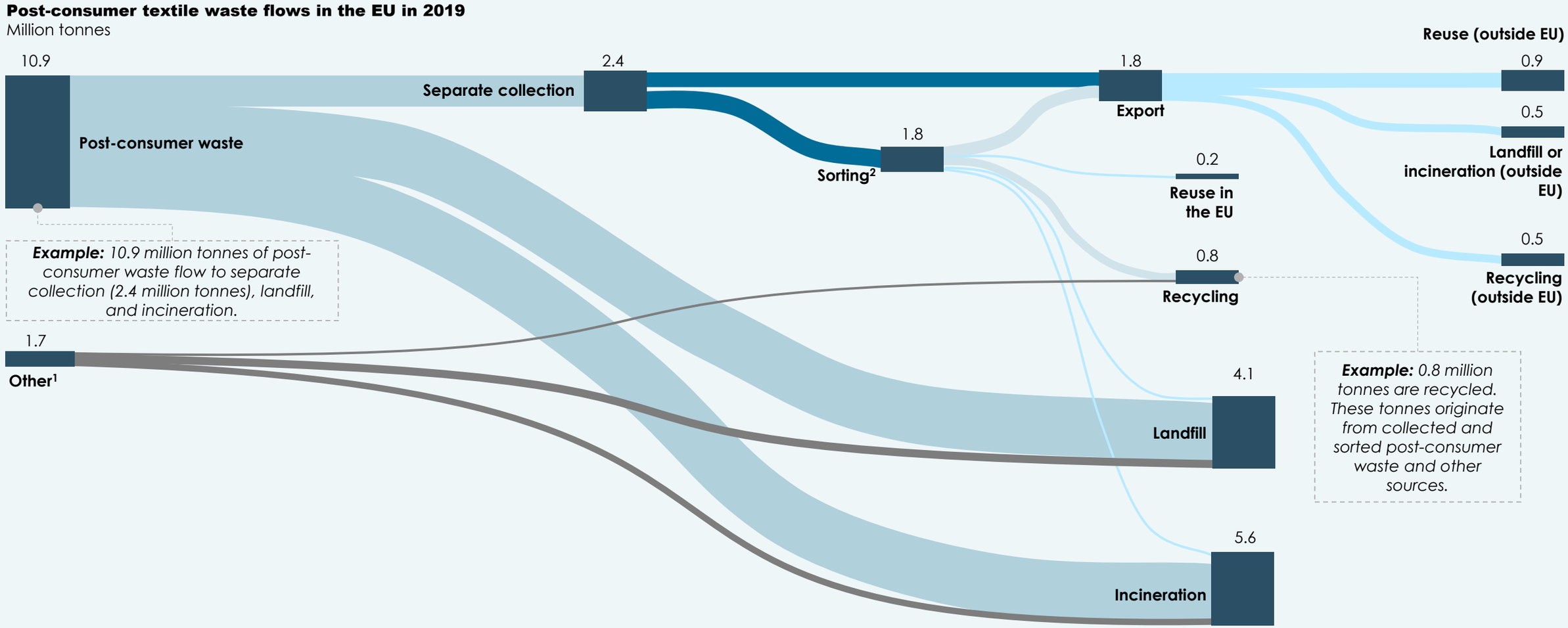
For the EU to succeed in increasing the recycling of textiles, new **recycling innovations are needed**,[4] and the recycling industry for textiles needs to increase its scale through increased investments.

- The current recycling capacity is estimated at 1.3 million tonnes per year, consisting of approximately 1 million tonnes from mechanical recycling, and 250,000 tonnes from chemical recycling.[2]
- This is well below the sorting capacity of 1.8 million tonnes per year, whilst the sorting capacity is below the amount of post-consumer textiles collected annually (2.4 million tonnes).[5]

The Waste Framework Directive (WFD) seeks to increase the collection rates by requiring EU member states to set up separate collection points for textiles by 2025.[6] Additionally, there are challenges on waste outside of Europe, where some of the sorted textile materials end (see figure on the next page).

(1) For example, second-hand apparel. / (2) European Environment Agency (2024a), link. / (3) McKinsey & Company (2022), link. Closed-loop recycling (fibre-to-fibre) is where the new products are of the same quality as before, whereas in open-loop recycling, the new products are not of the same quality as the original product. Open-loop recycling is also called textile-to-textile recycling, in which new textile products are created from reclaimed textile waste . / (4) Some of the bottleneck for waste collection and preparation for recycling include the lack of innovation in proper cutting and sorting makes scalability of recycling difficult, as waste cannot be converted into feedstock at big volumes. In addition, recycling can be labour intensive, as automatic sorting is not yet fully reliable (based on information from interviews). / (5) JRC (2023), link. / (6) The WFD has been transposed such that each member state has a heterogeneous regime of EPR for textiles, complicating a pan-EU industry for textile recycling. Additionally, Extended Producer Responsibility (EPR) schemes will require producers to take responsibility for the entire lifecycle of their products, although there is currently no guidance on how EPR schemes will be implemented at the business level, see European Commission: WFD.

Illustration of the flows for post-consumer textile waste in the EU



Note: This figure is based on a mass flow analysis which estimates and tracks textile flows through the EU-27 textile production and consumption system for the reference year 2019. Numbers for the flows are not reported in the source. The data used is a combination of several Eurostat databases and previous literature. See JRC (2023), link. Values may not add up to the totals due to rounding.
Source: Copenhagen Economics based on JRC (2023).

(1) Other sources of waste are comprised of non-exported manufacturing and unsold textile waste. / (2) There is an additional flow of imported separately collected waste, not shown in the figure.

The rapid shift in legislation brings implementation challenges and uncertainty to the sector

For many years, the level of regulation for textiles has been low in the EU. This is now changing, as the EU has implemented several new regulations and directives that affect the European textile sector's operations and value chains (see next pages).[1] Given the international nature of the textile supply chain, these rules will also affect suppliers located outside the EU.

The EU's new regulatory requirements aim to foster a more sustainable and socially responsible textile industry throughout the value chain. **Well-designed EU rules** can be effective tools to ensure standardisation and a level playing field in the textile sector's transition.

However, it will be difficult and costly for textile retailers and wholesalers to comply with all the new legislation given the complexities of their global supply chains. These additional costs will have to be passed on to consumers.

Companies will need to adapt quickly to avoid penalties, manage increased costs and time spent on compliance, and at the same time remain competitive in a changing market.[2]

Concretely, the new EU rules pose challenges for several reasons:

Firstly, the **number of new rules** over a short period, adds complexity and compliance costs, especially in the coming years (see next pages). Textile retailers and wholesalers must invest in new IT systems and train their suppliers to provide data to comply with the new requirements. In addition, the regulation is particularly complex for suppliers outside of Europe, who are not familiar with EU rules.

When drafting new EU legislation, it is important to conduct thorough impact assessment on the sector that is affected by the legislation. A focus of these impact assessments would be on parts of the sector that are particularly at risk, for example, SMEs, and suppliers outside of the EU.[3]

Secondly, while EU *regulation and standardisation* can be good tools to ensure a level playing field for a sustainable transition, several new EU initiatives are implemented as **EU *directives***,[4] (see next pages), **which lead to the implementation of 27 different systems across the EU.** Textile companies will have to manage different rules in the different EU countries, adding additional compliance costs.

Thirdly, the requirements in some of the new regulations are not yet decided, for example for the ecodesign criteria in the ESPR[5] (see page 31). When these criteria are published, there is a risk that the **implementation period will be short**. Some companies place orders at their suppliers a long time in advance, which can make it difficult to react to short implementation periods.

Examples of new EU regulations and directives

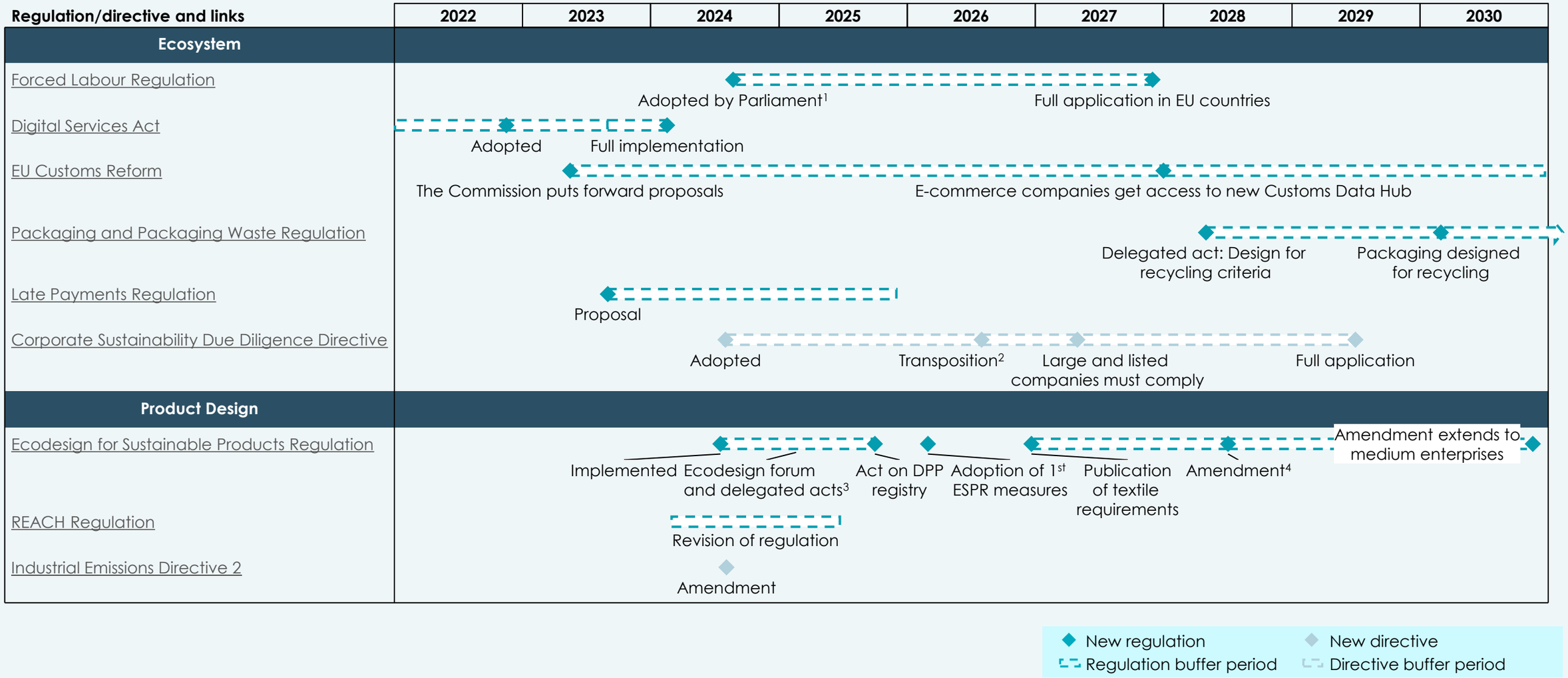
The amendment to the **Waste Framework Directive (WFD)**[5] introduces a requirement for the separate collection of textiles by 2025. Additionally, it proposes an **Extended Producer Responsibility (EPR) Framework Regulation** which will hold textile producers accountable for their products' lifecycle, including waste disposal and recycling. This requires companies to either finance recycling or adopt more circular design processes, which increases costs.

The **Waste Shipment Regulation**[6] requires companies exporting waste from the EU to demonstrate that the waste is properly managed in the destination country. One aspect is that independent audits must be conducted at the receiving facilities. Complying with these requirements incurs costs, both in time and financial resources for textile companies.

The **Corporate Sustainable Due Diligence Directive (CS3D)**[7] mandates that companies prove their supply chains are free from human rights abuses and meet stringent labour standards, posing both logistical and financial challenges, especially for companies sourcing from regions with less regulatory oversight.

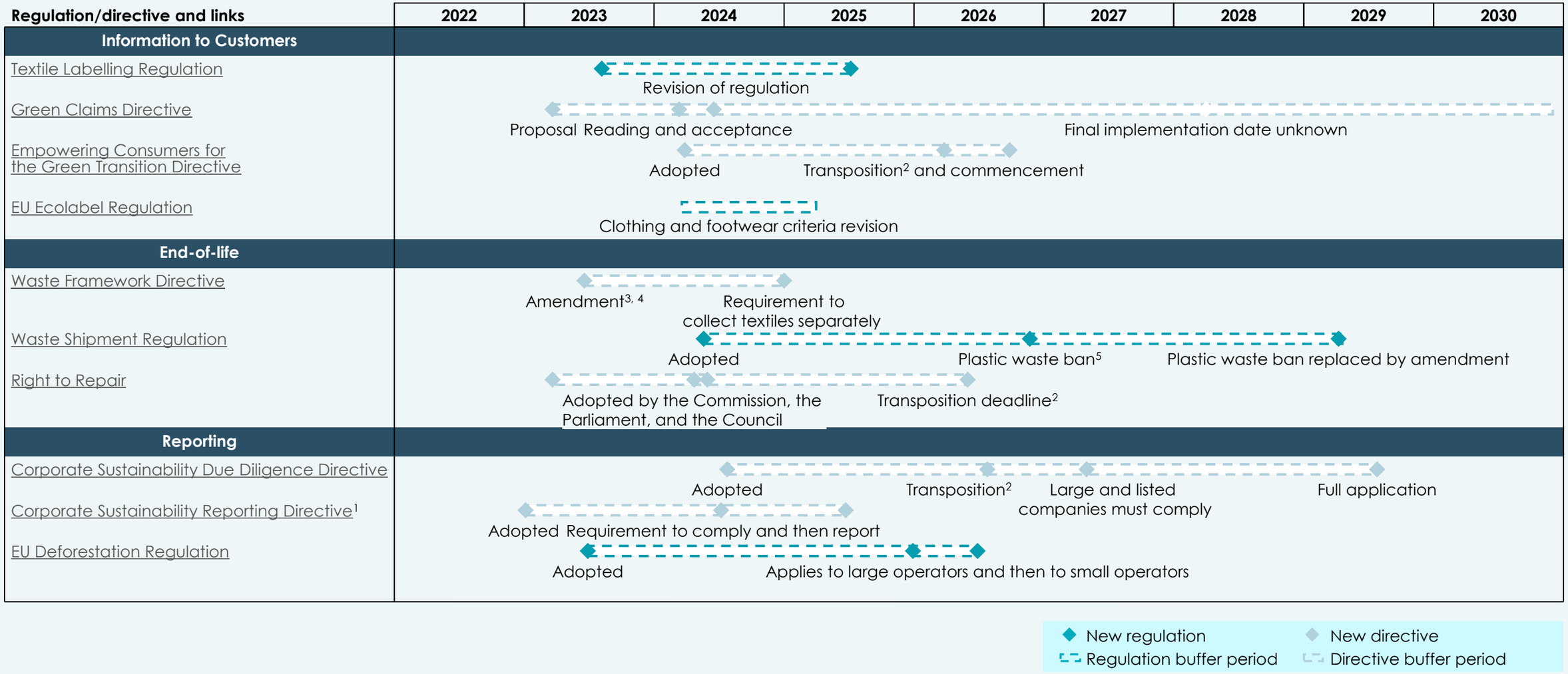
(1) In addition, the sector is governed by guiding principles for long and operations globally, see OECD (2018b), link. / (2) Our assessment based on the interviews. / (3) Similarly, the interlinkages between different legislations should be assessed. / (4) Directives set out goals that all EU countries must achieve but allow each country to choose how to implement them into national law, while regulations are immediately binding in all member states and apply uniformly without the need for national legislation. Directives are therefore more complex for companies to handle as they can be implemented differently across the different EU member states. / (5) European Commission: ESPR. / (6) European Commission: WFD. / (7) European Commission: Waste Shipment Regulation / (8) European Commission: CS3D.

Current and forthcoming EU legislation affecting the European textile sector at the time of writing this report (1/2)



(1) Prohibition of the sale, import, and export of goods made using forced labour. / (2) Each EU member state must transpose the directive. / (3) The ESPR covers three delegated acts; one for ecodesign rules for apparel products, one for the digital product passport and one for unsold goods. / (4) The amendment bans the destruction of unsold shoes and clothing for large enterprises.

Current and forthcoming EU legislation affecting the European textile sector at the time of writing this report (2/2)



(1) In the CSRD, sector-specific standards for textiles, accessories, footwear and jewellery are expected in 2026. / (2) Each EU member state must transpose the directive. / (3) As of the time of this report, there is no set implementation date for the directive. / (4) The proposed revised directive (COM/2023/420) references the development of an end-of-waste criteria but does not specify a timeline, see paragraph 31 of the directive. / (5) The ban prohibits the export of plastic waste to non-OECD countries for 2.5 years, after which it is possible under a strict set of rules.

Uncertain criteria under the forthcoming ESPR

The Ecodesign for Sustainable Products Regulation (ESPR)[1] entered into force in 2024. It is an EU regulation aimed at promoting sustainability and more circular production by improving the environmental performance of products throughout their life cycle. The ESPR requires textiles to meet specific sustainability criteria, such as energy efficiency in production, durability and recyclability, before they can enter the EU market.

However, even though the ESPR entered into force, there are still several uncertainties and challenges:

- **Criteria are still not defined,** and it is not clear if they are measured on a product or portfolio level for companies.[2] These elements will be clarified in delegated acts for both the eco-design rules and unsold consumer products in the coming years.
- There is a **trade-off between different criteria**, for example the level of minimum recycled content criteria may affect the durability of textile products.
- Since the criteria have not yet been defined, the current implementation plan leaves companies with **little time to react**, perhaps as little as 18 months (see page 28).
- With the ESPR, the market for recycled textile material will rise in Europe but the **textile manufacturing specialisation is in Asia**. The Waste Shipment Regulation (WSR)[3] could act as a barrier, as the WSR makes it more **difficult to export waste**, which could lead to a situation where textile waste or recycled material cannot be shipped to the sourcing countries in Asia.
- A key component of the ESPR is the **Digital Product Passport** (DPP), which aims to provide consumers with clear visibility into the life cycle of the products they purchase. However, there are challenges:
  - **Data privacy issues** between different actors in the supply chain.
  - **Data authenticity and credibility** across the supply chain.
  - Securing **standardisation and interoperability** of data.
  - Lack of **technological infrastructure**.
  - Ensuring **stakeholder engagement** across the supply chain.
- As it stands now, medium-sized companies will follow the same criteria as large companies (with four years delay), which add **relatively high compliance costs** to these companies.

These uncertainties add risks, challenges, and cost increases for companies in the European textile sector to comply with the new regulation.

Uncertainties and challenges in the ESPR

(1) European Commission: ESPR. / (2) If implemented on a product level, the compliance costs are higher, as the products individually would have to rely on the criteria rather than the company being able to implement the most efficient initiatives to follow the criteria at a portfolio level. / (3) European Commission: Waste Shipment Regulation.

SMEs experience specific challenges due to their size

SMEs operating in the European textile value chain generate benefits to the European economy in retail, textile manufacturing, and related activities. SMEs produce **60-70 per cent of the turnover** of garment and footwear in Europe.[1]

SMEs play an important role by supporting jobs in Europe, and they account for almost **1.5 million direct jobs**[2] in the European *textile manufacturing industry in the EU*, which is 75 per cent of the total employment in the industry.[3] SMEs also operate more in rural areas than for example large companies, supporting jobs outside of the larger cities.

At the same time **SMEs and start-ups can be important drivers of innovation and custom-fit solutions** optimised for a specific consumer needs, for example specialised or niche products.

Outside of Europe, SMEs in the textile sector often operate in producing raw materials or intermediate materials, or in the manufacturing of textiles.[4]

However, **SMEs face challenges** when operating in the global textile value chain (see next page). New legislation introduces risks for SMEs, as they have limited resources to make the required investments to fully comply with EU rules.

This would particularly hit SME production companies outside of Europe that are suppliers to the European market, as they are not familiar with the EU rules.

Furthermore, should the late payment directive end in maximum 30 days payment terms, it could worsen the liquidity situation for some SMEs.[5]

These challenges increase the barriers to entry for new companies, which could harm the competitive landscape of the sector over time and ultimately increase costs and potentially textile product variety for the consumers.

The EU acknowledges that SMEs are burdened by compliance costs, which is why much of the new EU rules do not apply to SMEs. For example, small businesses are exempt from the ESPR's ban on destroying unsold shoes and clothing, whilst medium-sized enterprises have an additional four years to comply with ESPR.[6] Similarly, the CSRD does not apply to unlisted SMEs,[7] and small companies are also exempt the CSDDD.[8]

(1) OECD (2021), link. / (2) I.e., not including indirect jobs. / (3) European Commission (2024c), page 46, link. / (4) OECD (2021), link. / (5) For example, SME retailers have a varying revenue flows from consumer purchases, whereas their purchase orders and inventory is less flexibility, i.e., they rely on supplier credit. With less flexibility around payment terms, this could result in periods with lower liquidity for these SMEs. Other SMEs may have improved liquidity from the directive, if they are currently supplying to companies under long payment terms. In total, one estimate suggests the need for EUR 2 trillion in extra financing across the EU with this legislation, see Allianz Research (2024). / (6) European Commission: ESPR. / (7) European Commission: CSRD. / (8) European Commission: CS3D.

Examples of SME-specific challenges

Relatively higher regulatory compliance costs. SMEs often face relatively higher burdens when complying with international trade and investment regulations. These regulations require complex legal and administrative processes that weigh heavily on SMEs due to their limited resources (time, people, and finances). The financial burden of hiring legal experts and adapting operations can in some cases hinder ability to compete.

Higher per-unit production and trade costs. Larger businesses benefit from economies-of-scale, meaning they can produce and distribute goods or services at lower per-unit costs due to their higher production volumes, efficient processes, and shipments of larger volumes. SMEs have smaller operations, and therefore, they struggle to match these cost advantages.

Difficulty accessing affordable financing. Securing affordable financing is an obstacle for SMEs seeking to invest abroad. Limited credit histories, perceived higher risk profiles, and a lack of collateral can lead to difficulty in obtaining loans or credit lines. When financing is available, it comes with higher interest rates, which further strains their financial capacity. This lack of access to capital can prevent SMEs from pursuing promising investment opportunities and grow the business.

Limited brand recognition. Establishing brand awareness and trust in new markets is crucial for successful international expansion. However, SMEs often lack the resources and established reputation of larger brands. Building brand recognition requires significant investments in marketing and advertising, which can be a challenge for SMEs with limited budgets.

Weak bargaining power with partners. When negotiating contracts and partnerships with international partners, such as distributors, suppliers, or investors, SMEs often find themselves in a weaker bargaining position. Their smaller size and limited market influence can lead to less favourable terms and prices in negotiations.

Dependence on few suppliers and/or customers. SMEs are more dependent on few suppliers and/or customers which can greatly affect their business. It is costly for SMEs to manage multiple suppliers. Similarly, some SMEs operate in businesses where they rely on a few business-to-business customers.

Source: Based on desk research, interviews, and Copenhagen Economics (2019), link.

COMPETITIVENESS AND OPPORTUNITIES IN THE SECTOR

Chapter 3

European share of global textile value added has declined since 2000

In this chapter, we examine the competitiveness of the European textile sector in the **global** textile markets. We show the sector's historic development and the future outlook of the textile sector.

The global production of textiles has almost doubled from 58 million tonnes in 2000 to 109 million tonnes in 2020 and is projected to reach 145 million tonnes by 2030.[1]

The European textile sector's share of global textile value added has declined from **26 per cent** in 2000 to **13 per cent** in 2020 (see figure).[2] This stems from a combination of lower absolute value added in Europe and an increase in textile production in Asia.

European companies still have strong positions in parts of the value chain with highly productive jobs, including design, R&D, and other professional service activities (see figure below to the right).

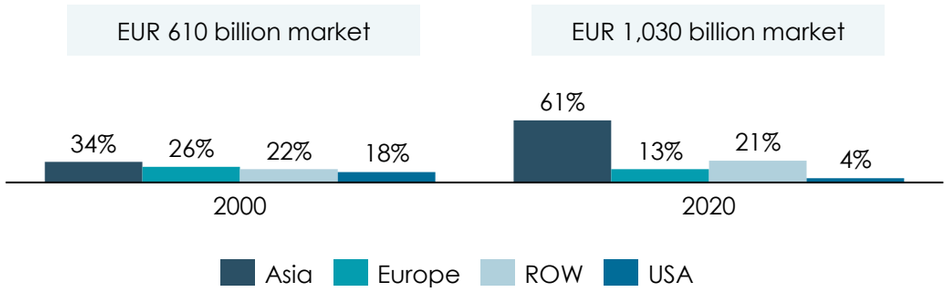
At the same time, European suppliers deliver machinery, equipment and service inputs to textile manufacturing in other regions, in particular Asia, where the textile sector has experienced rapid growth since 2000.

Europe is not competitive in all parts of the value chain. This is why parts of the value chain are mainly located outside of Europe, including the production of **raw materials and textile manufacturing** (see figure).

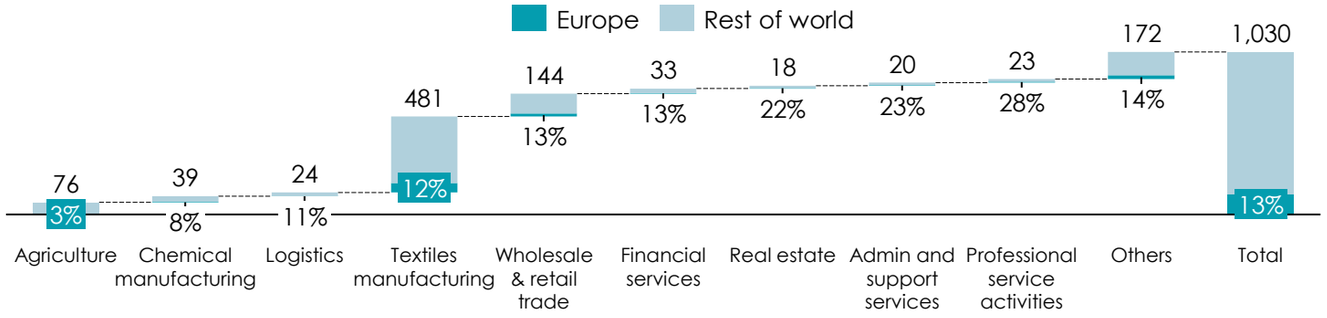
Going forward, the textile sector in Europe has the opportunity to grow in particularly high-skilled parts of the value chain such aa specialisation in technical equipment and machinery for sustainable, circular production, recycling etc.

For this to materialise, investments in R&D and new innovations are needed to scale affordable sustainable production methods and remain competitive going forward.

Shares of value added in the global textile value chain, 2000-2020
Percentage and global market in EUR billion (2020-prices)



The European share of value added in the global textile value chain, 2020
EUR billion (2020-prices)



Note: Values may not add up to the totals due to rounding. Figures shows final demand and valued added shares of textiles, wearing apparel, leather and related products including technical textiles and industrial workwear. Values are not adjusted for inflation and adjusted for exchange rates. 2023 values are not used to avoid inaccurate comparisons of inflation rates between Europe and the rest of the world. Financial services mainly comprise of raising, obtaining and providing funding; underwriting insurance and annuities; and specialised services facilitating or supporting financial or insurance service. Refer to Appendix F for a description of the industries.
Source: Copenhagen Economics based on OECD (2023).

(1) European Parliament (2024), link. / (2) We find that the market shares for the final textile *demand* and Europe's share of global value added in the textile value chain are 12 per cent in 2023.

European businesses are competitive within highly productive industries in the value chain

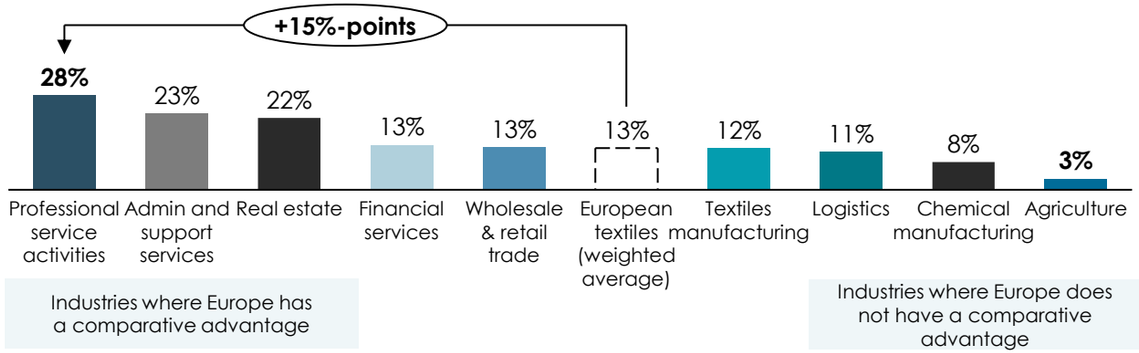
In the parts of the European textile sector that are *within Europe*, the workforce composition has shifted from low-skilled to a medium- and high-skilled workforce since the mid-1990s.[1] This has resulted in a higher value creation *per textile job* in Europe.

European companies have specialised in highly productive parts of the textile value chain. For example, for professional service activities in the global textile value chain, the European share of value added was **28 per cent** in 2020, i.e., **15 percentage points** more than the total European share of value added (see figure below to the left).[2] These services include R&D, design, and marketing. Conversely, the European share of global value added in agricultural products used for textile production (e.g., cotton, wool) was just **3 per cent** in 2020.

European companies have specialised in highly productive sectors, which yield a large economic contribution to Europe. For professional service activities, the value added per person employed was **EUR 118,000** in 2021, **62 per cent** higher than average value added in Europe (see figure).

European share of value added in different industries in the global textile value chain, 2020

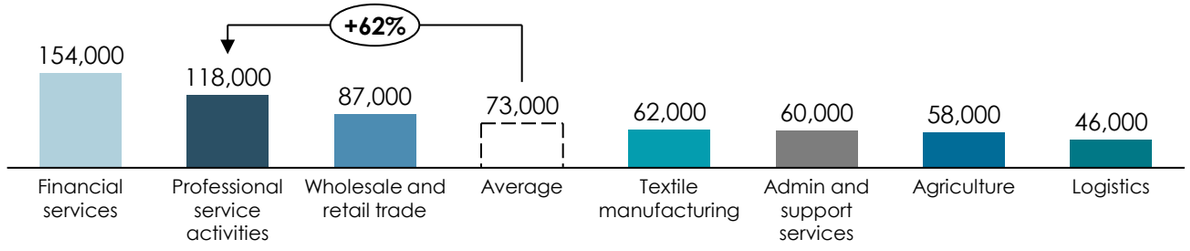
Percent of global value added in textile products sold globally



Note: Share of global valued added is calculated as the ratio between valued added by the European textile industry to the global textile industry. 2023 values are not used to avoid inaccurate comparisons of inflation rates between Europe and the rest of the world . Refer to Appendix C and F for a description of the industries.
Source: Copenhagen Economics based on OECD (2023).

Value added per person employed in selected European industries, 2021

EUR per person employed, annual



Note: Values are rounded to the nearest thousand. Value added per employee is calculated as the average between EU 27 countries and the UK. See appendix for sector groupings.
Source: Copenhagen Economics based on Eurostat (2024b), Eurostat (2024c), OECD (2023), Office for National Statistics (2024a) & Office for National Statistics (2024b)

(1) See Copenhagen Economics (2013), page 33, link. / (2) This is an outcome of comparative advantages, as explained in chapter 2.

Asian textile companies provide raw materials and manufacturing for textile consumption globally

Asia has experienced rapid growth in its textile sector in recent decades. Asian companies in the global textile value chain[1] both supply textiles to other regions and serve the increased demand for textiles within Asia.

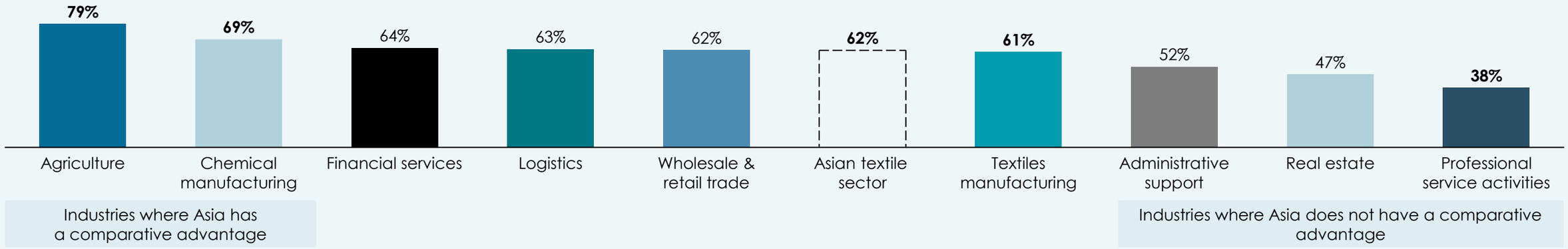
Asian countries had a **62 per cent** share of global textile value added in 2020 (see figure) an increase from 33 per cent in 2000. Asian companies have specialised in the parts of the value chain that are relatively labour-intensive due to several Asian countries' labour abundance and lower labour costs. This has resulted in Asian countries producing labour-intensive parts of the value chain more cost-efficiently than, for example, in Europe.

The growth comes primarily from textile manufacturing of which the Asian countries have a **61 per cent** share of global value added. However, the Asian share of the global textile value chain for labour intensive industries such as raw materials from agriculture and chemical manufacturing are **79 per cent** and **69 per cent**, respectively.

On the other end of the scale, in more knowledge-intensive parts of the value chain, the Asian countries has a lower global value added share, such as **38 per cent** in professional and scientific activities.

Asian countries' share of value added in different industries in the global textile value chain, 2020

Percent of global value added in textile products sold globally



Note: Share of global valued added is calculated as the ratio between valued added by the Asian textile industry to the global textile industry. Refer to the appendix for sector groupings. 2023 values are not used to avoid inaccurate comparisons of inflation rates between Asia and the rest of the world. Refer to Appendix F for a description of the industries.

Source: Copenhagen Economics based on OECD (2023)

(1) Defined as the companies that delivers raw materials, production and services to final textile consumption globally. We include the Asian countries on page 16.

European companies also operate further upstream in the global textile value chain

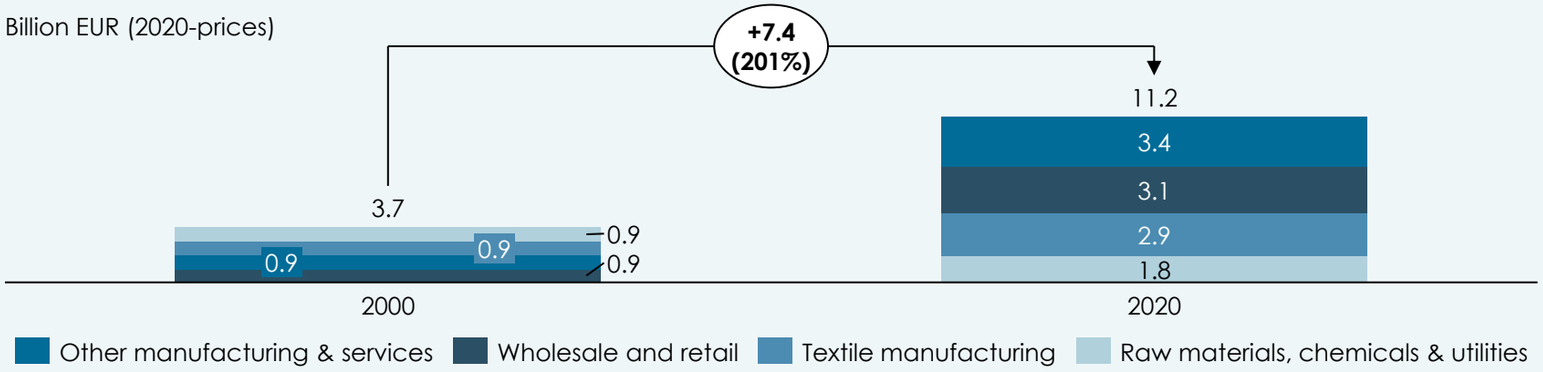
The rise of the Asian textile sector also brings benefits to Europe in parts of the value chain that are further upstream.

In 2020, Asian textile companies purchased goods and services in Europe worth **EUR 11.2 billion**, which is an increase from **EUR 3.7 billion** in 2000 (see figure).

The primary sources of these inputs are wholesale and retail services and manufacturing goods, including textile manufacturing, machinery, and equipment. As an example, sales of textile production machinery from Italy to China totalled EUR 222 million in 2023.[1]

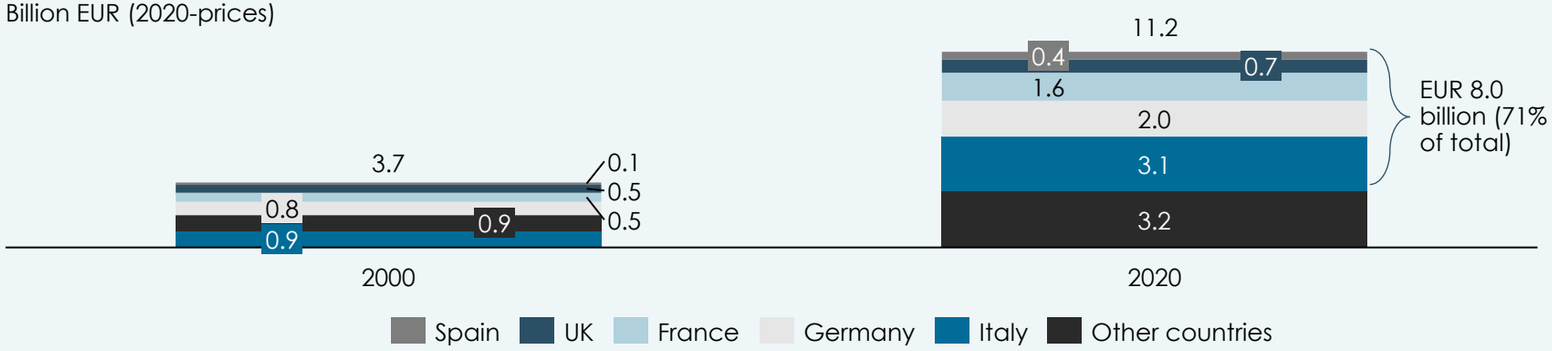
Italy, Germany, France the UK, and Spain are the main markets supplying the Asian textile company purchases, accounting for **EUR 8.0 billion (71 per cent)** of European goods and services sold to Asian textile companies in 2020, whereas other European countries accounted for EUR 3.2 billion (see figure).

Intermediate purchases of Asian textile companies from Europe in different sectors, 2000-2020



Note: Values may not add up to the totals due to rounding .*Values are in billion Euros unadjusted for inflation and adjusted exchange rates. Refer to the appendix for sector groupings.*
Source: Copenhagen Economics based on OECD (2023).

Intermediate purchases of Asian textile companies from Europe in different countries, 2000-2020



Note: Values may not add up to the totals due to rounding. *Refer to the appendix for the country and sector groupings.*
Source: Copenhagen Economics based on OECD (2023).

(1) ACIMIT (2024), link.

Following a period of decline in value added since 2000, the European textile sector has experienced recent growth. The sector has the potential for further expansion in certain areas, particularly in **high-value segments of the value chain**.

One of the challenges facing the European textile sector is the more stringent sustainability requirements in the EU compared to other regions, which will likely put pressure on the sector going forward.[1] But these requirements could also offer opportunities on the global market over time, when other regions aim to become more sustainable.

A new area for opportunity is **sustainable textile production,** such as new fibres; both from a textile company perspective, but also in potential **specialisation in technical equipment and machinery for sustainable textile production** further upstream in the textile value chain.

The sector is well-positioned to promote sustainable practices in countries outside of Europe. With its global value chains, the European textile sector has established a trading interdependence with countries specialised in textile manufacturing, for example in Asia.

Through this relationship, the European textile sector can **push for more sustainable practices in countries outside of Europe** by setting requirements and standards for sustainable production processes and increased transparency. Multi-stakeholder initiatives are useful tools for this (see next page).

While a push for a sustainable transition leads to positive effects in third countries, they are most effective if supplemented by a political diplomatic push in these countries as well. For example, it may be difficult for European textile retailers and wholesalers to ask textile manufacturing companies in Asia to produce textiles with renewable energy if it is difficult to get local political approval to install new renewable energy production.

Some textile retailers and wholesalers are already promoting **new sustainable practices**. Another example is pushing for more ambitious and **standardised rules** to ensure a level playing field in the sustainable transition.[2] Additionally, several retail companies have takeback programmes for used clothes.[3]

European textiles have opportunities in new technologies

(1) In addition, there is a risk of incoming US import tariffs and barriers. / (2) See, for example, position papers by Decathlon (2024), link. / (3) A more general push for a sustainable transition in the sector has not been identified, and there are also limitations to what companies can do. One of several limitations could be competition regulation, which includes restrictions on agreements and concerted practices between companies. Retail companies need to take into account that agreements and concerted practices restricting competition cannot be exempted from competition law simply by referring to a sustainability objective.

Multi-stakeholder initiatives can be effective in promoting sustainable practices outside of Europe. Examples include:

- **Amfori**[1] has implemented initiatives to improve social performance along members' supply chains and identify environmental risks.
- The **Ethical Trading Initiative**[2] provides a framework to ensure that textile retailers and wholesalers, and their suppliers, comply with ethical labour standards.
- The **Fair Wear Foundation**[3] focusses on improving labour conditions specifically in the garment industry.
- The **International Accord**[4] is a legally binding agreement to ensure the safety of garment workers in Bangladesh and Pakistan through oversight measures.
- **The Fashion Pact**[5] is a CEO-led initiative that leverages collaboration to address environmental challenges.
- **Make Fashion Circular** by Ellen MacArthur Foundation[6] aims to redesign the way clothes are made and used.
- As well as other national and local initiatives.

Even with the company initiatives and multi-stakeholder initiatives, coordination problems persist for innovations involving sustainability and circulatory in the textile value chain. New innovations are not scaled to the whole market due to lack of finance and lack of clarity on regulation.[7]

Increased focus on the need for new innovations and increased investments are essential for the future competitiveness of the European textile sector, meeting challenges in the transition, and for scaling-up new businesses for more sustainable production.

(1) Amfori, link. / (2) Ethical Trading Initiative, link. / (3) Fair Wear, link. / (4) International Accord, link. / (5) The Fashion Pact, link. / (6) Ellen MacArthur Foundation, link. / (7) Based on information from the interviews. For example, going forward Europe will have an increasing amount of secondary material from textile recycling, but the manufacturing capacity is currently in Asia. It is important to develop this trade link for future circularity in the value chain.

REFERENCE LIST AND APPENDICES

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- Appendix B: Input-output modelling and extrapolating the results to 2023-numbers
- Appendix C: Country and industry groupings, and trade statistics
- Appendix D: Comparative advantage and interdependence
- Appendix E: Products covered in textile trade
- Appendix F: Sector description

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Note: All links were assessed between November 2024 and January 2025.

Appendix A

Our approach to the interviews

In this project, we conducted ten interviews: seven with large textile and retail companies, two with SMEs, and one with an upstream textile manufacturer.

We used the information from these interviews to better understand how global value chains operate and create value (chapter 1), identify the challenges in the sector (chapter 2), and evaluate the competitiveness and opportunities in the sector (chapter 3).

In the interviews, we focused on how the participants' value chains look, as well as the reasons for this structure. We delved into the initial parts of the value chain to understand how raw materials and textile products are produced, and explored the complexities of textiles when they reach their end-of-life.

A focus in the interviews was EU legislation and directives affecting textiles. The participants shared their views on specific rules that concerned them, and we discussed the implementation guidelines, and overall coherence of the separate regulations.

We discussed challenges and opportunities within the textile industry, with a particular focus on complex supply chains, sustainability, and circularity. In the two interviews with SMEs, we focused on SME-specific challenges.

Finally, we discussed the competitiveness of the textile sector, with an emphasis on which parts of the value chain European companies are competitive, and why this is the case. The idea of reshoring textile production back to Europe was also discussed.

We steered each interview towards the most interesting aspects where the interviewees provided new insights to our work. Therefore, in none of the interviews did we go through *all* the topics listed above.

Overall, the interviews provided valuable insights into the textile industry's global value chain, challenges and opportunities, and competitiveness of the sector.

Appendix B

Input-output modelling and extrapolating the results to 2023-numbers

The value chain calculations in this report are made using a so-called input-output model, which is based on data from OECD's inter-country input-output tables, covering each year from 2000 to 2020. In these tables, we can track the value chains on an industry level from raw materials to final demand, for example textile demand.[1] This means that we can track the value creation from the European textile sector on an industry level and on a country level.

The input-output model is calculated using a so-called Leontief (*L*) inverse matrix on the input-output table with the formula:

$$L = (I - A)^{-1}$$

Where *I* is an identity matrix, and *A* is the matrix with all the intermediate transactions from the OECD input-output table. The interpretation of this model is: the amounts of intermediate inputs that goes into producing one euro worth of final demand.

With the Leontief inverse matrix, we can calculate the distribution of value added embedded in final textile demand by multiplying this demand with the matrix.

The latest Input-Output table from 2020 is not fully representative, as it was the year of the global pandemic. Hence, we use the IO table of 2019 and update it to 2023 using the following procedure:

STEP 1

We obtain growth rates for value added in Agriculture, Industry, Manufacturing and services at the country-level from the World Bank.

These growth rates are applied to the respective countries and sectors value added in the IO table of 2019 to extrapolate into 2023 numbers.

STEP 2

From step 1, we calculate country-level growth in value-added by consolidating the overall growth across sectors.

This growth is applied to final demand in 2019 to get final demand in 2023. This ensures value added and final demand in 2023 are balanced.

STEP 3

We calculate total output in 2023 using a Leontief inverse matrix multiplied with the final demand 2023.

The Leontief inverse is not updated, meaning that we assume the same *composition* of intermediate inputs in 2019 as 2023 to produce one euro worth of textiles. This is a necessary assumption to be able to extrapolate the model to 2023.

STEP 4

We calculate the value-added shares and value-added distribution using the updated numbers.

Finally, the values are adjusted for inflation using the inflation adjusted factor between 2019 and 2023.

For European job numbers we combine the value added with the average value added per job in Eurostat. For industries where we do not have the value added per job, we use the median for the industries we have data on.[2]

(1) We do not cover specific plant-level investments but rather investment made on a sector level. See Appendix C for a further description. / (2) This is a conservative approach as the median value added per job is higher than what would be needed to reach the total value added in Europe. This means that we underestimate the job number slightly.

Appendix C (1/2)

Country and industry groupings, and trade statistics

Country groupings

Asia
- Myanmar
- India
- Japan
- Singapore
- Cambodia
- Malaysia
- Vietnam
- Bangladesh
- Laos
- Pakistan
- Brunei
- Philippines
- South Korea
- Kazakhstan
- Hong Kong
- Taiwan
- China
- Thailand
- Indonesia

Europe
- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czechia
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- The United Kingdom

The US
- The United States

Rest-of-world (ROW)
- Argentina
- Australia
- Belarus
- Brazil
- Canada
- Switzerland
- Chile
- Ivory Coast
- Cameroon
- Colombia
- Costa Rica
- Egypt
- Iceland
- Israel
- Jordan
- Morocco
- Mexico
- Nigeria
- Norway
- New Zealand
- Peru
- Russia
- Saudi Arabia
- Senegal
- Tunisia
- Turkey
- Ukraine
- South Africa
- Rest of World (category in OECD data)

Industry groupings

Raw materials:
- Agriculture, hunting, forestry
  - Use of vegetal and animal natural resources, comprising the activities of growing of crops, raising and breeding of animals, harvesting of timber and other plants, and the production of animal products from a farm or natural habitats.
- Fishing and aquaculture
  - Fishery and aquaculture, which are characterised by the gathering of marine, brackish or freshwater fish, crustaceans, molluscs, and other organisms and products.

Industry:
- Mining and quarrying, energy producing products
  - mining and quarrying of fossil fuels (coal, lignite, petroleum, gas).
- Mining and quarrying, non-energy producing products
  - Concerns metal ores, various minerals and quarry products.
- Mining support service activities
  - Includes specialised support services incidental to mining provided on a fee or contract basis.
- Chemical and chemical products
  - Includes the transformation of organic and inorganic raw materials by a chemical process and the formation of products.
- Electricity, gas, steam and air conditioning supply
- Water supply; sewerage, waste management and remediation activities
  - elated to the management, collection, pretreatment, recovery and disposal, of various forms of waste and its organisation.
- Construction
  - Includes general construction and specialised construction activities for buildings and civil engineering works.

Other manufacturing:
- Food products, beverages and tobacco
  - Processing of products of agriculture, forestry and fishing into food for humans or animals, manufacture of beverages and alcoholic beverages, and tobacco products.
- Wood and products of wood and cork
  - Manufacture of wood and of products of wood and cork, except furniture.
- Paper products and printing
  - Manufacture of pulp, paper, converted paper and the manufacture of products of recycled goods from wood, paper, cardboard and paperboard.
- Coke and refined petroleum products
  - Includes the transformation of crude petroleum and coal into usable products.
- Pharmaceuticals, medicinal chemical and botanical products
  - Manufacture of basic pharmaceutical products and pharmaceutical preparations.
- Rubber and plastics products
  - Manufacture of rubber and plastic products.
- Other non-metallic mineral products
  - Manufacturing activities related to a single substance of mineral origin.
- Basic metals
  - Activities of smelting and/or refining ferrous and non-ferrous metals from ore, pig, metal waste or scrap.
- Fabricated metal products
  - Manufacture of fabricated metal products, except machinery and equipment.
- Computer, electronic and optical equipment
  - manufacture of computers, computer peripherals, communication equipment, and similar electronic products.
- Electrical equipment
  - Manufacture of products that generate, distribute and use electrical power.
- Machinery and equipment, nec
  - Manufacture of machinery and equipment that act independently on materials either mechanically or thermally or perform operations on materials.
- Motor vehicles, trailers and semi-trailers
  - Manufacture of motor vehicles for transporting passengers or freight.
- Other transport equipment
- Manufacturing nec; repair and installation of machinery and equipment
  - Includes the specialised repair of goods produced in the manufacturing sector with the aim to restore machinery, equipment and other products to working order.

Appendix C (2/2)

Country and industry groupings, and trade statistics

Textile manufacturing:

- Textiles, textile products and leather and footwear.
  - Preparation and spinning of textile fibres as well as textile weaving, tailoring in all materials, clothing and manufacturing of leather and related products.

Wholesale & retail trade:

- Wholesale and retail trade; repair of motor vehicles
  - Includes wholesale and retail sale (in other words, sale without transformation) of any type of physical goods and rendering services

Logistics:

- Land transport and transport via pipelines
  - Includes the transport of passengers and freight by road or rail.
- Water transport
  - Includes the water transport of passengers or freight.
- Air transport
  - Includes the transport of passengers or freight by air.
- Warehousing and support activities for transportation
  - Includes operation of transport infrastructure (for example, airports, harbours, tunnels, bridges).
- Postal and courier activities

Other services:

- Accommodation and food service activities
  - Includes the provision of short-term accommodation for visitors, temporary accommodation, as well as the provision of meals and drinks fit for immediate consumption.
- Publishing, audiovisual and broadcasting activities
  - Book, newspaper, periodical and software publishing activities; production of motion picture, video and television programmes , sound recording and music publishing activities: radio and television broadcasting as well as television or radio programme production and distribution activities.
- Telecommunications, IT and other information services
  - Includes telecommunication and related service activities.
- Financial and insurance activities
  - Raising, obtaining and providing funding; pooling of risk by underwriting insurance and annuities ; and providing specialised services facilitating or supporting financial or insurance service activities
- Real estate activities
  - Activities of owning, renting out, buying, selling, developing or refurbishing (redeveloping) property
- Professional, scientific and technical activities
  - Includes specialised professional, scientific and technical activities. These activities require a high degree of training and make specialised knowledge and skills available to users.
- Administrative and support services
  - Includes a variety of activities that support general business operations.
- Public administration and defence; compulsory social security
  - Activities of a governmental nature, normally carried out by the public
  - administration.
- Education, Human health and social work activities
  - Includes education at any level or for any profession.
- Arts, entertainment and recreation
  - Activities to meet varied cultural, sports and recreational interests of their customers, including live performances, entertainment, the operation of cultural and natural heritage sites, and gambling.
- Other service activities
  - Includes the activities of membership organisations, the repair of computers, personal and household goods, motor vehicles and motorcycles, and a variety of personal service activities.
- Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
  - Includes activities of private households as employers of domestic personnel and subsistence goods-producing and services-producing activities of households.

Trade statistics using BACI

Groupings are based on BACI's standard product groups in HS 1996 nomenclature. Textiles and clothing correspond to group "50-63_TextCloth". Product category "5911 – Textile products and articles, for technical uses, specified in Note 7 to this Chapter." are excluded according to the TOR.

Footwear corresponds to group "64-67_Footwear".

Appendix D

Comparative advantage and interdependence

Comparative advantages[1] refer to the unique strengths and resource endowments that enable a region to have a competitive edge in global trade and economic performance.

A region's competitive advantage includes its ability to produce specific goods or services relatively more efficiently than others.

These advantages can stem from a relative abundance of natural resources, skilled labour, technological innovation, or favourable geographic location.

Interdependence refers to the mutual reliance between regions for goods, services, resources, and knowledge. No country can produce everything it needs efficiently, so countries trade with others to obtain products and services that they lack.
This interconnection fosters economic growth, strengthens diplomatic ties, and enhances global cooperation.

(1) Based on the theory of comparative advantages first developed by 19th century economist David Ricardo.

Appendix E

Products covered in textile trade

Trade statistics are obtained from BACI (2023). Products under analysis are from the Harmonised System 1996 (HS 6-digit code) which is a standard nomenclature for international trade.

Products are classified using a six-digit code. The first two digits represent the broad product group, first four digits represent the product subgroup, and the full six digits represent the detailed product. The broad product groups used in our analysis are:

50 – Silk

51 - Wool, fine or coarse animal hair; horsehair yarn and woven fabric

52 - Cotton

53 - Vegetable textile fibres; paper yarn and woven fabrics of paper yarn

54 - Man-made filaments

55 - Man-made staple fibres

56 - Wadding, felt and nonwovens, special yarns; twine, cordage, ropes and cables and articles thereof

57 - Carpets and other textile floor coverings

58 - Fabrics; special woven fabrics, tufted textile fabrics, lace, tapestries, trimmings, embroidery

59 - Textile fabrics; impregnated, coated, covered or laminated; textile articles of a kind suitable for industrial use

60 - Fabrics; knitted or crocheted

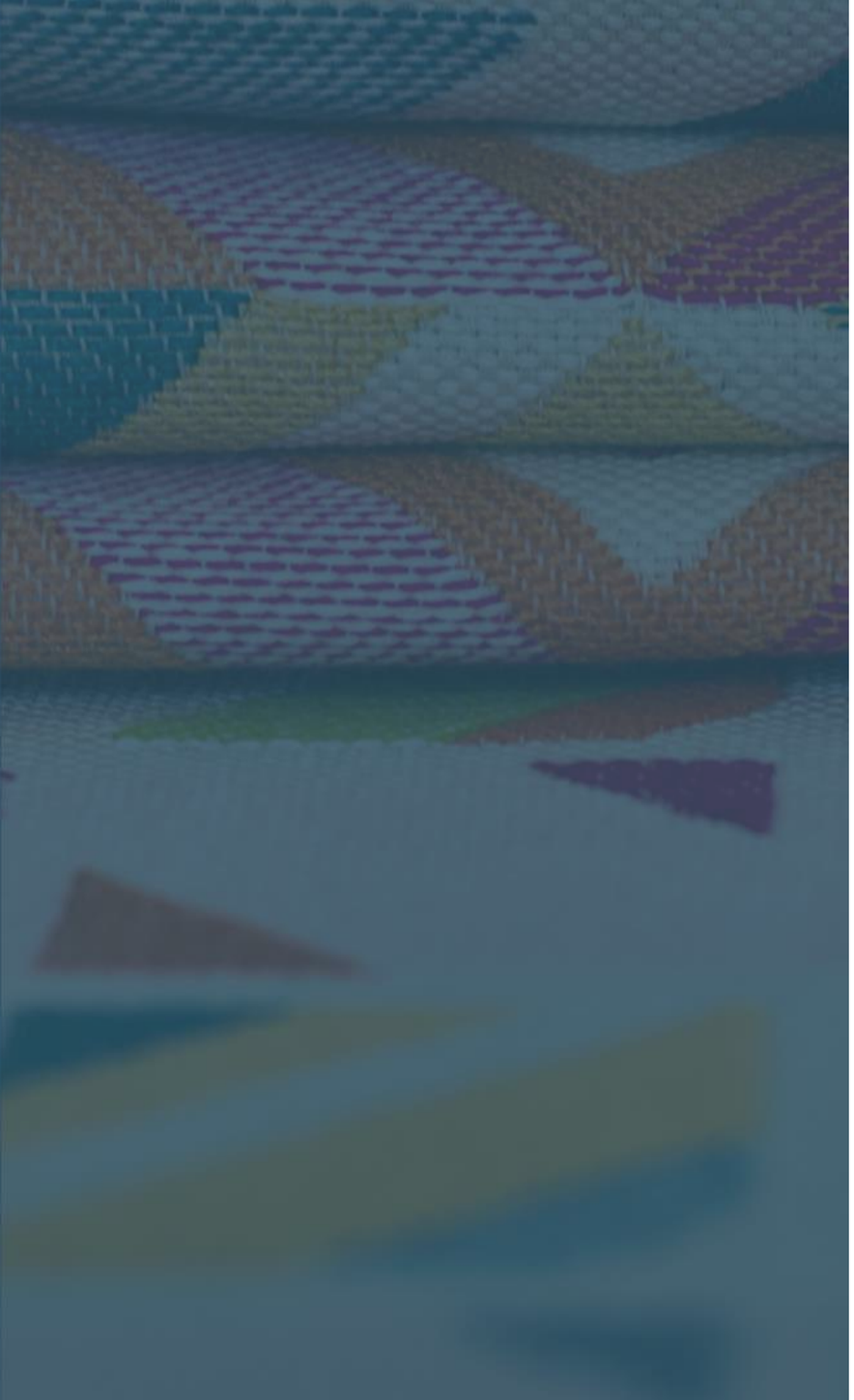
61 - Apparel and clothing accessories; knitted or crocheted

62 - Apparel and clothing accessories; not knitted or crocheted

63 - Textiles, made up articles; sets; worn clothing and worn textile articles; rags

64 - Footwear; gaiters and the like; parts of such articles

Technical textiles under the subgroup 6407 are excluded.



Appendix F

Sector description

In this report, we use our own defined industry groupings, based on industry classification from OECD (NACE rev. 2). We cover the following industry groups:

- **Agriculture** provides raw materials like cotton, and wool, which are inputs for the textile industry. It marks the beginning of the textile value chain by growing and harvesting natural fibres for further processing.
- **Financial services** support the textile value chain through funding, loans, and investment for farmers, manufacturers, and other businesses. They enable capital flow for production, technological upgrades, and supply chain operations.
- **Logistics** ensures the efficient transportation of raw materials, semi-finished, and finished textile products across different stages of the value chain. It connects suppliers, manufacturers, and retailers globally to meet production and market demands.
- **Textile manufacturing** transforms raw and intermediate materials into yarn, fabric, and finished textile products through spinning, weaving, dyeing, and garment production.
- **Wholesale and retail trade** serve as the bridge between manufacturers and end consumers by distributing and selling finished textile products. They play a vital role in determining market access, pricing, and demand.
- **Real estate** provides the buildings required for textile production, warehousing, and retailing facilities. It supports the value chain by enabling spaces for manufacturing plants, distribution centres, and storefronts.
- **Administrative support** ensures smooth operations in the textile value chain through activities like HR, accounting, and supply chain management.
- **Professional services** such as design, consulting, and marketing add value by improving product innovation, quality, and branding. These services support competitiveness and efficiency within the textile industry.

CONTACT

ce@copenhageneconomics.com

Copenhagen Economics A/S

Langebrogade 1
DK-1411 Copenhagen
Denmark

Lilla Nygatan 14
SE-111 28 Stockholm
Sweden

Hämeentie 11
FIN-00530 Helsinki
Finland

Maison de la Radio
Place Eugène Flagey 18
BE-1050 Brussels
Belgium

www.copenhageneconomics.com