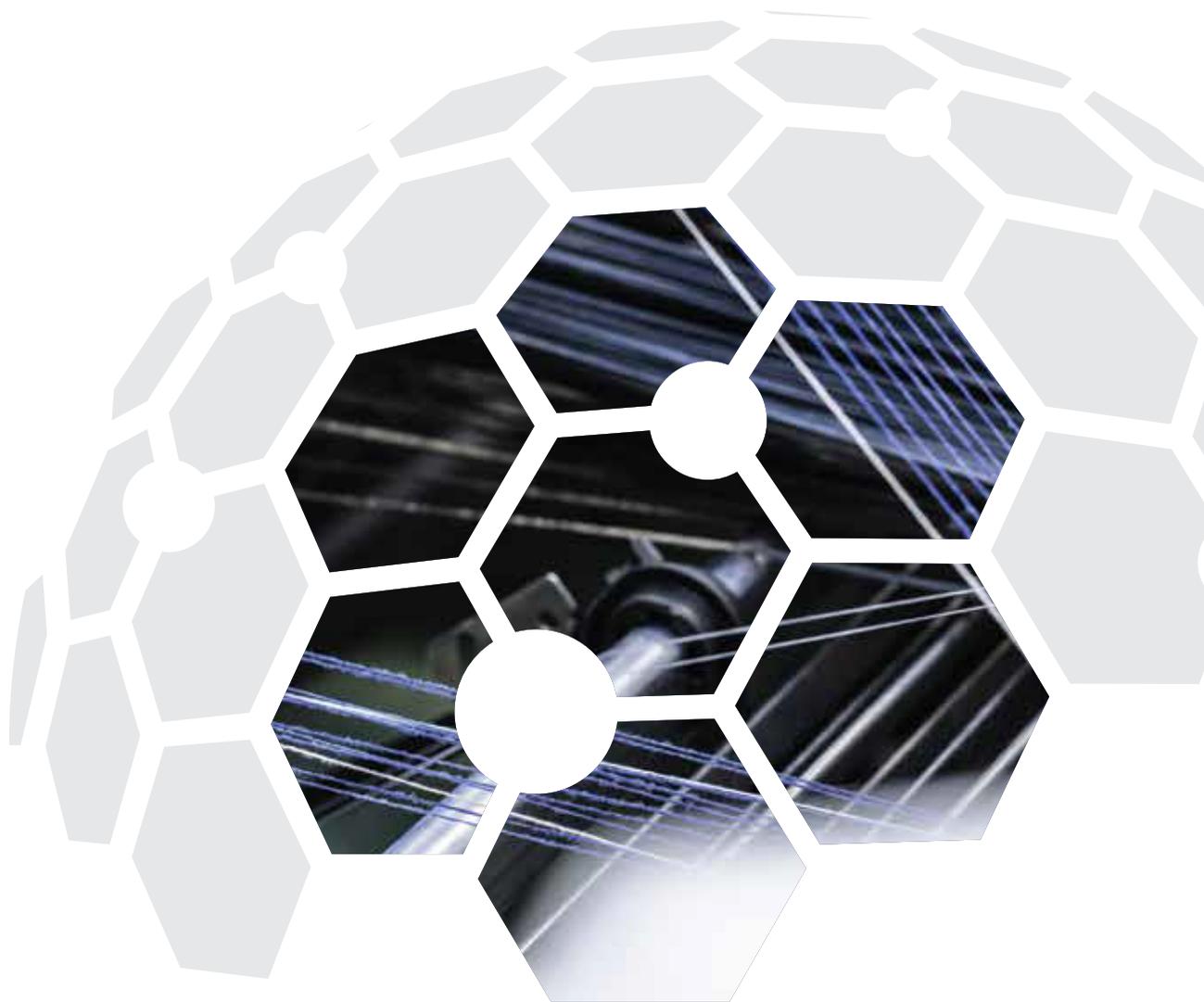


# REALIZING OPPORTUNITIES FOR THE 21<sup>ST</sup> CENTURY THROUGH RESILIENT GLOBAL VALUE CHAINS

## TEXTILES & APPAREL





**Fiber thread on a spinning  
loom in textile production**

IsDB member countries play a vital role in  
the global textiles and apparel industry

# REALIZING OPPORTUNITIES OF THE 21<sup>ST</sup> CENTURY THROUGH RESILIENT GLOBAL VALUE CHAINS

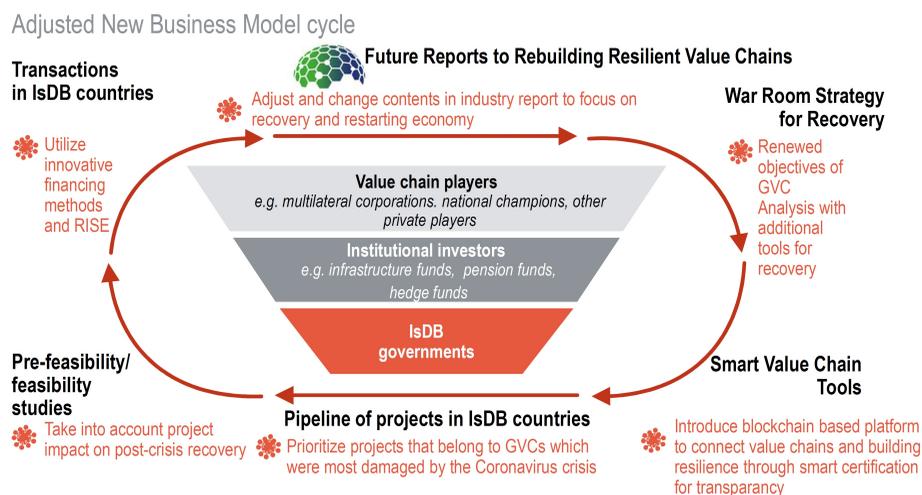
By 2030, the textiles and apparel industry must be able to dress 8,6 billion people all over the globe, which require substantial production increases.

IsDB member countries need to take action now to create additional resources, increase their productivity and transform their business models in order to support stable growth and innovation. Within this report, IsDB offers an indepth view on key trends and initiatives that will shape the future of its 57 members through 2030 and beyond.

Although the coronavirus pandemic may pose short to medium term risks and vulnerabilities to IsDB member countries, the opportunities in the longer term may require a comprehensive understanding of the global Textile and Apparel value chains in the near term. A success in overcoming these short-term impediments and recovering quickly may allow IsDB member countries to increase their market share in the global economy, boosting added value in their economies, and creating employment opportunities to support their socio-economic development.

These initiatives require strong partners to jointly drive investments and disseminate knowledge in IsDB member countries. Looking ahead, such investments will unlock IsDB member countries' potential for adequate employment and equitable living conditions, while providing private sector partners with access to some of the fastest growing economies worldwide.

To create and sustain a virtuous cycle for partnership and investment, the IsDB adopted a new business model that aims to Make Markets Work For Development. The new business model integrates strategic programming at the global level, country level, and even operations level. The Figure below is a demonstration of this integrated approach.



# FOREWORD

Dr. Bandar M. H. Hajjar



## **A MARKET OF POTENTIALS – 57 COUNTRIES OFFERING GROWTH AND INVESTMENT POTENTIAL ACROSS A SET OF CORE INDUSTRIES**

The Islamic Development Bank's (IsDB) 57 Member Countries include many of the world's fastest-growing economies. Jointly, they represent the purchasing power of almost one quarter of the world's population. The combined GDP of IsDB Member Countries amounts to roughly USD 7 trillion. With GDP growth rates of up to 8% per year, their economies have considerable potential to further increase their market share in the global economy.

IsDB has identified a set of core industries in which its Member Countries offer numerous competitive advantages. They are among the world's top producers in the **Textiles and Apparel** industry, playing a vital role in the supply of raw materials or in the different stages of the global value chain (GVC). The industry supports their exports, provides jobs, and is a significant contributor to their overall socio-economic development.

Although the coronavirus pandemic may pose short to medium term risks and vulnerabilities to IsDB member countries, the opportunities in the longer term may require a comprehensive understanding of the global Textile and Apparel value chains in the near term. A success in overcoming these short-term impediments and recovering quickly may allow IsDB member countries to increase their market share in the global economy, boosting added value in their economies, and creating employment opportunities to support their socio-economic development.

The Textiles and Apparel sector is critical to the growth and development strategies of many developing countries and is considered a typical starter industry in the first steps to industrialization. When the industry expands, it provides a base on which to build capital for more technologically demanding industries. Any disruption to this sector could therefore have disastrous economic effects in many IsDB Member Countries. At the same time, it is vital for them to adapt to and catch up with technological developments to be internationally competitive.

If they do so, the Textiles and Apparel industry holds a promising future for IsDB Member Countries thanks to its market size of USD 2.2 trillion and an expected annual growth rate of 3.5%. Current market disruptions such as innovations in automation and digitalization, as well as new sustainable materials, will fundamentally change the industry's balance of power, providing opportunities for IsDB Member Countries to strongly position themselves at stages where they can add higher value.

## **DRIVING DEVELOPMENT, GROWTH AND INNOVATION TOGETHER – A NEW APPROACH TO DOING BUSINESS WITH THE ISLAMIC DEVELOPMENT BANK**

Within its 10-Year Strategy, the IsDB has set clear goals to catalyze private and public investment for the economic and social development of its Member Countries. The IsDB places strong partnerships between the private and public sectors at the core of its strategy to sustainably drive modernization and growth.

Some of the potential areas for collaboration in the IsDB's new business model include partnerships between IsDB Member Countries to increase trade and investment relations, co-financing arrangements with the public and private sectors, multilateral development banks and other international organizations, and private-sector engagement in development interventions. For Textiles and Apparel, collaboration with industry associations within and across countries as well as joint projects with universities can strengthen knowledge exchange and drive innovation. Partnerships with brands and knitting houses or weaving mills can foster more vertical integration for companies in IsDB Member Countries. They can also help unlock potential for higher added value within those countries and provide good return on investment.

This report provides a detailed insight into the challenges, opportunities and potential for the Textiles and Apparel industry, offering a valuable starting point for future collaborations.

# ISDB



البنك الإسلامي للتنمية  
Islamic Development Bank

## **EXPOSITION**

The Year 2020 marks a key milestone for globalization forcing the world nations to make an important choice: “To Deglobalize” or “To Reglobalize”. In light of the expansion of protectionism globally, the steady increase in the population with at least 40 million young men and women annually entering the job market, and the acceleration of structural challenges as a result of the fourth industrial revolution and the Covid-19 pandemic, the world sits at a crossroad with major trade-offs to make.

This publication belongs to a series of publications that aim to create a feasible pathway for Reglobalization or the active evolution and reform of globalization by world leaders to make it more Resilient, Smart, and Inclusive. This book demonstrates, for instance, how resilience in Global Value Chains can be achieved while maintaining optimal efficiency. By capitalizing on the intrinsic comparative advantage of developing countries, global markets can have alternatives that are as efficient in times of crisis. This not only makes globalization more resilient but also inclusive of nations that have been left behind historically.

The Future is a series of publications, led by the IsDB Department of Strategy and Transformation (DoST), dedicated to forecasting economic trends, emerging global priorities, and helping Member Countries to be better prepared to meet them. The chief aim of the series is to help create global coalitions that are driven by a shared vision of the future of humanity and the world.

Dr. Ahmed Elkhodary  
Director of Strategy and Transformation  
Islamic Development Bank (IsDB)

# EXECUTIVE SUMMARY

**The labor intensity of the Textile and Apparel industry and its critical role in the early stages of the industrialization process necessitate IsDB Member Countries to understand and rebuild a resilient Textile and Apparel Industry in the face of volatile global markets and to**

- ... make a significantly higher contribution to the global export value of USD 313 billion in textiles and USD 494 billion in clothing (2018)
- ... participate in a USD 3.3 trillion market in 2030 by generating additional value through primary/secondary processing steps and leveraging their access to raw materials
- ... create thousands of new jobs, with positive spill-over effects in education, governance, and overall industrial competitiveness

## HOW WILL THE INDUSTRY LOOK LIKE WITH THE GLOBAL PANDEMIC?

**Powerful trends are changing the textiles and apparel industry and opening up a market full of potential.**

- By 2030, population growth and a rising interest in fast fashion will boost the demand for textiles and apparel, resulting in anticipated annual growth of 3.5%
- The Covid-19 pandemic shock will accelerate the pace of shift to digitalization in the whole Global Value Chain, increase of e-commerce's share in sales, and the need for new workforce skillset for adoption to the new technologies.
- Brands are increasingly moving toward strategic partnerships with vertically integrated suppliers. Consolidation and creation of networks among manufacturers are expected

- Game-changing technologies, such as automated cutting machines and 3D printing, as well as digitalization, will elevate efficiency, promote sustainability, and take textile materials to the next level. This will become essential for a country's competitive advantage

## TEXTILES AND APPAREL INDUSTRY – WHERE ARE WE NOW?

**IsDB member countries play a vital role in the global textiles and apparel industry. To expand their reach, they need to realize their full potential by fostering vertical integration and innovation in production and materials.**

- IsDB member countries are represented in the entire textiles and apparel value chain, holding 15% of the market for raw materials, 11% of export values for textiles, and 17% of global export values for clothing
- Most IsDB member countries focus on one stage of the GVC. This presents exciting opportunities to gain additional value by expanding into upstream and downstream stages of textiles production or apparel manufacturing
- Fragmented adoption of new technologies and materials among IsDB member countries highlights the need for investment to remain competitive
- Natural fibers such as cotton and wool are increasingly being challenged by competitively priced, better-performing man-made fibers, offering huge opportunities for IsDB member countries to participate in growth

## HOW READY ARE ISDB COUNTRIES FOR THE FUTURE?

There is no standard approach to industry development across all countries. While some must focus their efforts on innovation, others need to invest significantly in infrastructure to unlock their potential.

- **Established market champions** are incumbent industry players, achieving a significant share of the IsDB textiles and apparel export value. To defend their position in the long run, they must focus on investing in innovative production technologies, industry consolidation, and achieving Sustainable Development Goals
- **Emerging stars** account for a noteworthy share of IsDB exports. To become key players, they require better infrastructure as well as access to financing to invest in modern technology and machinery
- **Promising potentials** are yet to obtain a significant share in exports, but high growth rates reveal their potential. For these countries, increasing the level of industrialization and foreign direct investment for manufacturing capabilities are key to establishing themselves in the market

## HOW TO UNLOCK THE POTENTIAL OF ISDB COUNTRIES IN A HIGHLY VOLATILE WORLD?

Private sector involvement, government support, and collaboration among IsDB member countries are key to creating unique growth opportunities and securing a favorable position.

- In order to create and sustain competitiveness, investments from the private sector in modernization and technological innovation for production and primary and secondary processing (e.g. through strategic partnerships with international brands) are essential
- Enhanced logistics, energy, and information flow infrastructure is needed to meet new requirements for speed to market and delivery times. The current infrastructure gap in many IsDB member countries must be bridged through government initiatives and FDI
- IsDB member countries should support ongoing consolidation across a fragmented value chain to drive efficiency and professionalism and increase value creation
- In cooperation with local associations and NGOs, improving environmental and social sustainability by complying with work standards and enabling garment traceability is key to positioning IsDB member countries as attractive sourcing destinations
- Actively sharing knowledge and best practices as well as partnering with other IsDB member countries can foster competitiveness among members

## **KEY QUESTIONS TO BE ANSWERED BY THE PUBLICATION**

How will the Industry look like with the Global Pandemic?

How and where is value being created in the global textiles and apparel industry? – And how are IsDB's member countries positioned in the market?

How can public and private players work together to spark sustainable, equitable and profitable sector growth in all IsDB member countries?

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**Female designer in an apparel design studio**

Demand for textiles and apparel is anticipated to grow by 3.5% annually through 2030



1

**HOW WILL THE  
INDUSTRY LOOK  
LIKE WITH THE  
GLOBAL  
PANDEMIC?**

## **The Global Pandemic will reshape the Textile and Apparel Global Value Chain**

With the negative effects of the coronavirus pandemic and disruptions in the Textile and Apparel Global Value Chain, IsDB Member Countries can reposition themselves with swift actions to adopt to the new normal and build resilient value chains in the longer term.

## **IsDB member countries will benefit from shifts in the GVC footprint**

Increasing labor and production costs in China, combined with greater nearshoring of production facilities to Europe and the US, will lead to shifts in global trade flows. IsDB members will benefit

## **Vertical integration of processing steps will increase pressure on IsDB member countries**

Brands are increasingly moving toward strategic partnerships with vertically integrated suppliers that are also engaged in product design and cover several processing steps. IsDB member countries will need to invest in end-to-end integration and digitalization

## **Technological innovation drives IsDB members to act**

Technologies such as automation and robotics will improve productivity, resource utilization, and flexibility of production. New materials will be increasingly sustainable and technical. Investments will be required for IsDB members to remain competitive

## **Working standards and textile waste reduction must be tackled**

Working standards will need to be more rigorously enforced to enhance health and safety conditions. Greater product recyclability and production efficiency may help decrease the high share of textile waste

# 1.1

## GLOBAL TRENDS AND THEIR IMPACT ON THE TEXTILES & APPAREL INDUSTRY

### Megatrends, industry-specific trends, innovation

The coronavirus pandemic has exerted an unprecedented public health crisis and external shock to the global economy. In addition to the health-related challenges, the prevalence of lockdown and quarantine measures and sudden stop in global mobility have forced the retail stores to close and production of numerous goods and services to be halted worldwide. Relatedly, world economy is expected to contract, and countries will face substantial escalation in unemployment and poverty rates. The economic crisis emanating from both supply and demand shocks may leave behind a legacy that the world has not experienced since the Great Depression.

Among other industries, the Textile and Apparel is one of the most affected industries from the coronavirus pandemic because of its labor intensity, predominance of low wage earners, and the central position of developing countries in the production process. Consequently, the complex networks of Textile and Apparel Global Value Chain may need to adapt to these shocks to be more resilient. This

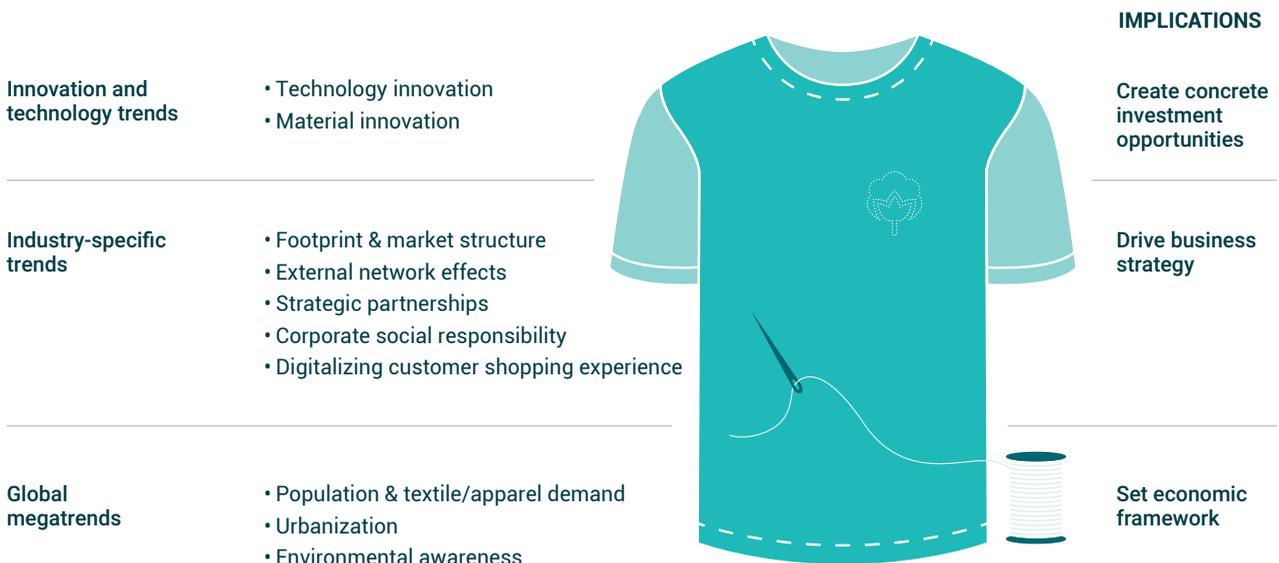
external shock to the Textile and Apparel industry will accelerate the pace of transformation caused by worldwide megatrends, industry specific trends and the shift to technological innovation. Countries and firms which can adapt to these trends with swift actions will reap the most benefits in the medium to long term. Within this context, IsDB Member Countries have ample opportunities to reposition themselves in the Textile and Apparel Global Value Chain, become competitive in the global market, and support their socio-economic development by increasing value-added in their economies and creating employment opportunities.

#### GLOBAL TRENDS

##### Population growth and textiles/apparel demand

The world's population is expected to grow from 7.8 to 8.6 billion people by 2030. More than 90% of this growth will originate in developing countries, particularly in Nigeria, Pakistan, and Indonesia. In the coming decade, the populations of these and other IsDB member countries will increase by between five and ten percentage points faster than the global average, with 50% of overall growth coming from sub-Saharan Africa and 30% from Asia and Latin

### Trends shaping the textiles and apparel industry



America. Migration flows will distort this picture only slightly. The advent of approximately 800 million more people will naturally increase demand for textiles and apparel, as well as the need to invest in new manufacturing facilities. Consequently, the textiles and apparel industry is expected to grow by 3.5% over the next 10 years.

### Increasing urbanization

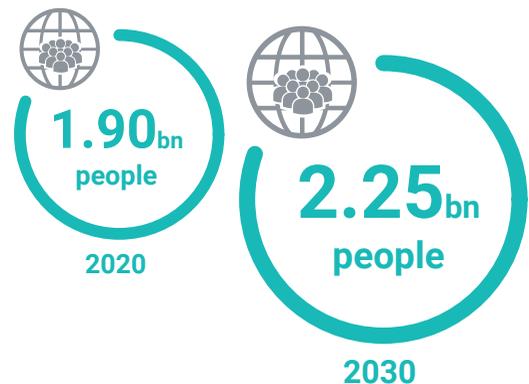
By 2030 around 60% of the global population will be city-dwellers, compared to 56% today. The rate of increase in urbanization will average between 81% in developed countries and 57% in the developing world. This is expected to impact the textiles and apparel industry in IsDB member countries in several ways. Firstly, urbanized areas will facilitate access to many employees with different skills, although an associated increase in living expenses and wage competition will likely see rising labor costs. Secondly, big cities with a high density of different skill sets can facilitate innovation hubs. Enabling different parties to work and develop in close proximity to each other will facilitate agglomeration. Lastly, from a retailer perspective, urbanization will increase the need for smaller stores, transforming the business model for stationary retail.

### Growing environmental awareness

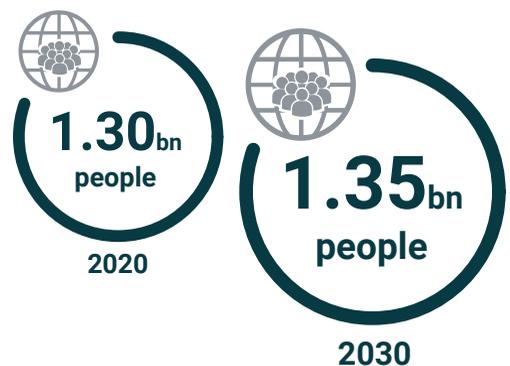
While there is broad scientific consensus that human activity contributes to climate change, the specific regional impacts can differ widely. In Africa, fresh water is likely to become even more scarce, impacting the cultivation of raw materials. Southeast Asia is expected to see an increase in both magnitude and frequency of natural disasters like floods. The environmental impact of the textiles and apparel industry is also leading to change. Growing awareness, tighter legislation, and more effective enforcement are

## Population growth, 2020–2030

### IsDB member countries

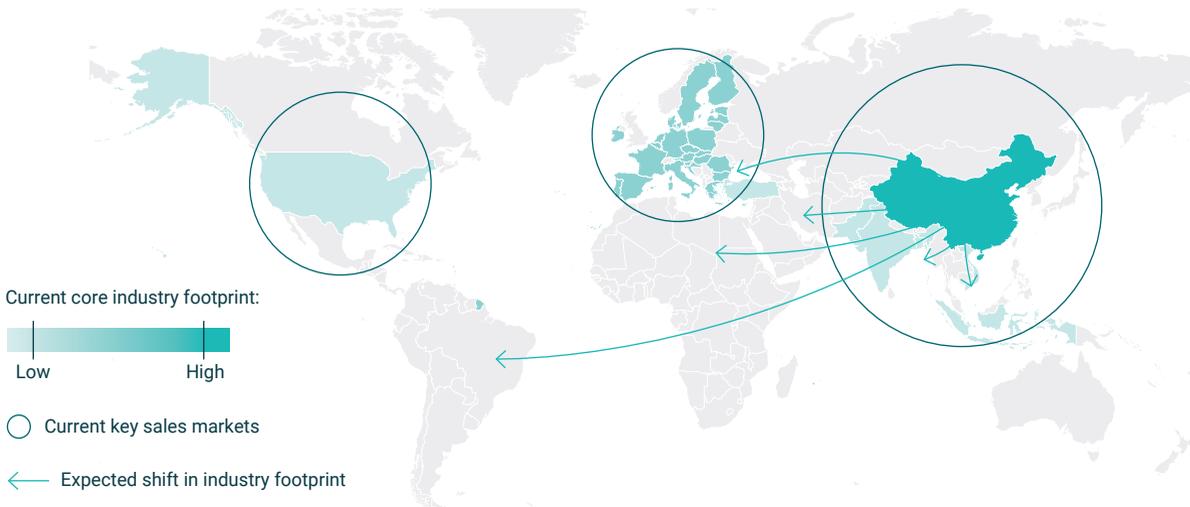


### OECD countries



likely to have a strong impact on the industry, especially resource-intensive steps like finishing. These regulations will be accompanied by advances in sustainable production methods. Investment to foster knowledge and infrastructure in these areas in IsDB member countries will yield tangible economic benefits.

## Predicted shifts in production and sales market footprint



### INDUSTRY-SPECIFIC TRENDS

Above and beyond the three global megatrends outlined above, several trends specific to the textiles and apparel industry will also influence ongoing development in the sector.

#### Footprint and market structure

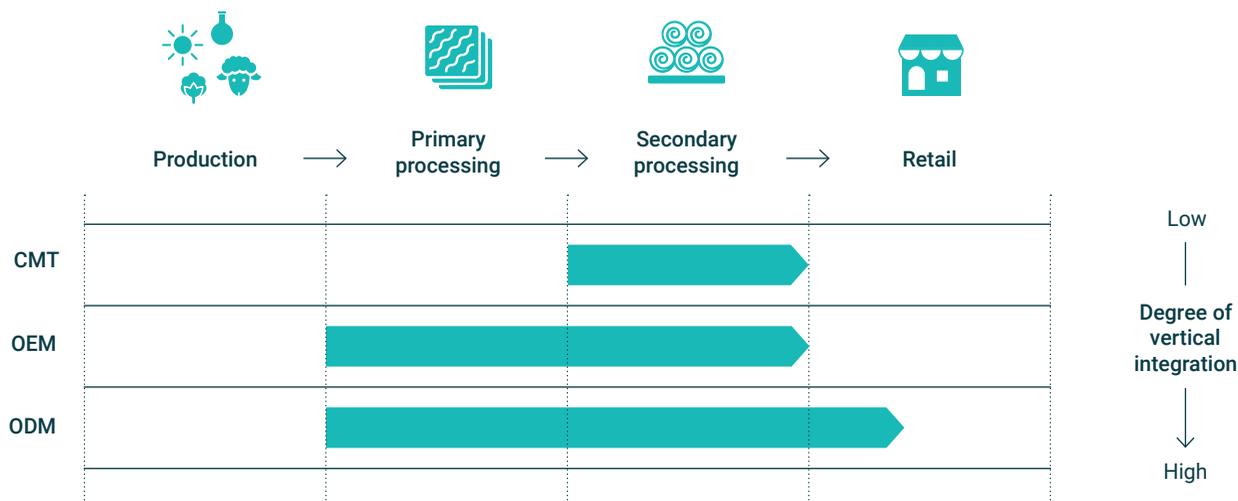
The textiles and apparel industry relies heavily on China, where more than 30% of exports originate. However, greater prosperity is expected to increase labor and production costs there, leading to outsourcing of lower-added-value production stages to nearby countries such as IsDB member countries Bangladesh or Indonesia. Leading companies will also try to diversify their production footprint to reduce their dependency on China. Moreover, the coronavirus outbreak shows how health emergencies disrupt global networks. This is expected to drive a further diversification of the value chain in favor of IsDB member countries, in order to reduce the potential disruption.

Another trend connected to this market shift is nearshoring – moving parts of the GVC closer to final sales markets to reduce lead times and inventories. The US and European markets, for example, remain important and accounted for approximately 50% of global consumer

spending on clothing and footwear in 2018. To shorten lead times to those markets, certain regions are likely to increase their production: North Africa (including IsDB member countries Morocco, Tunisia, and Egypt); countries close to Europe, such as Turkey; and countries close to the United States, like Mexico. The future market structure will mainly be determined by a country's location as well as the ability of its textiles and apparel industry to provide cost-effective production, competitive skills, quality products, and efficient lead times.

Global sales volume is expected to increase significantly thanks to a rise in sales per capita and a growing middle class in countries like China and India. The importance of Asian countries for end consumers will continue to grow, as emphasized by Greater China overtaking the United States as the world's largest fashion market. This will also increase trade flows of manufactured goods within Asia as intra-regional trade and domestic sales grow in countries that used to be more internationally export focused. Due to their proximity to China, IsDB member countries such as Malaysia are likely to take advantage of serving those new, emerging sales markets. Overall, IsDB member countries are expected to benefit from these shifts in demand and supply.

## Degrees of vertical integration



### Strategic partnerships

In order to meet growing demand and reduce lead times, brands are expected to build strategic partnerships with larger, more capable first-tier suppliers. Sports retailer Adidas has already been pursuing this strategy for some time, basing its sourcing model on long-term strategic partnerships. A shift is predicted from pure “cut, make, trim” (CMT) producers toward full-fledged original equipment manufacturers (OEMs) or original design manufacturers (ODMs).

OEMs take full responsibility for all secondary processing activities, from CMT to finishing, as well as upstream primary processing activities like raw material sourcing. ODMs expand on this by adding design capabilities in the product development process. Digitalization will contribute significantly to the efficiency of these strategic partnerships by speeding up data transfer between the design, testing, and production phases, as well as improving transparency as brands will ensure that producers fully comply with safety, social, and environmental standards. This will make supply chain partners and producers accountable for each step of the GVC.

Digitalization is also expected to lead to a shift in workforce requirements, going beyond simple sewing to

monitoring more complex machine modules. As a result, partnerships with producers will increasingly be selected on the basis of factors other than price, like full-package capabilities, professionalization, and digital expertise. A consolidation of producers is expected to facilitate greater end-to-end integration and close collaboration with brands. This may take the form of manufacturer verticalization or building a network with multiple factories and (cross-border) locations. Additionally, retailers are increasingly willing to share the risk of modernization with manufacturers by opting to partner with a dedicated production site, becoming engaged in investments, or guaranteeing to fully use capacities.

This new partnership-based cooperation model changes the requirements for manufacturers and raises the need to invest in end-to-end integration and digitalization. One example of end-to-end services integration for a brand in an IsDB member state is the textile conglomerate Viyellatex in Bangladesh. Its vertically integrated business unit portfolio covers the value chain from spinning to ready-made garments, while simultaneously meeting high environmental standards.

### **External network effects**

External networks are expected to have a growing impact on the competitiveness of textiles and apparel manufacturers, especially in IsDB member countries. The industry will require the engagement of local governments to ensure the necessary infrastructure is in place, provide financial subsidies for investments such as machinery upgrades, and implement effective tariff policies and bilateral free-trade agreements to incentivize exports and stabilize demand. To this end, special economic zones and export processing zones may gain importance.

The industry is also predicted to benefit from increased cooperation with third-party stakeholders. University programs and industry-specific training institutes are expected to provide the necessary knowledge base to support industry upgrades and increase added value within a country. In January 2020, for example, American clothing company PVH announced a partnership with Fordham University's Gabelli School of Business to collaborate on an educational program for corporate responsibility and sustainability. Elsewhere, partnering with startups will facilitate access to innovation in production and products. Lastly, stakeholders such as NGOs and trade unions are expected to have an increasing impact, for example in enforcing labor standards.

The scope of the external network will increasingly include international interest parties such as foreign direct investment (FDI) groups to build infrastructure or international labor organizations demanding adherence to corporate social responsibility standards.

### **Corporate social responsibility**

The passion of younger generations for social and environmental topics, including a growing demand to

understand the footprint of their apparel purchases, will further drive corporate social responsibility. All members of the GVC, including producers in IsDB member countries, are expected to evaluate the degree of sustainability and the environmental impact of their products and production processes.

This will lay the groundwork for innovation in textiles and apparel to improve the utilization of resources and recycling opportunities. Investments in these initiatives are predicted to come from all members of the GVC. Zara, for example, has launched the label Join Life, which flags best practices in raw material sustainability, including organic cotton and recycled wool, as well as production processes. They may be complemented by new circular economy business models including pre-owned and refurbished apparel, the repair of damaged products, and rental rather than ownership of clothes. In addition to environmental sustainability, the need to comply with social standards will also become increasingly important.

### **Digitalizing customer shopping experiences**

Technology is rapidly changing the way consumers engage with brands, inform themselves and how they buy their preferred products.

Retailers are increasingly implementing innovative communication concepts that are based on social media such as Instagram, Facebook or YouTube. Those media fundamentally change the relationship between brand and customer, enabling two-way communication, customization and trust. In the future, social commerce – buying products directly from the messenger or social media app – will offer sales growth potential in the textiles and apparel industry.



**3D printing machine  
assembling a sports shoe**

Technology innovation will have a major impact on textiles and apparel production with regard to speed, flexibility, and transparency

# 1.2

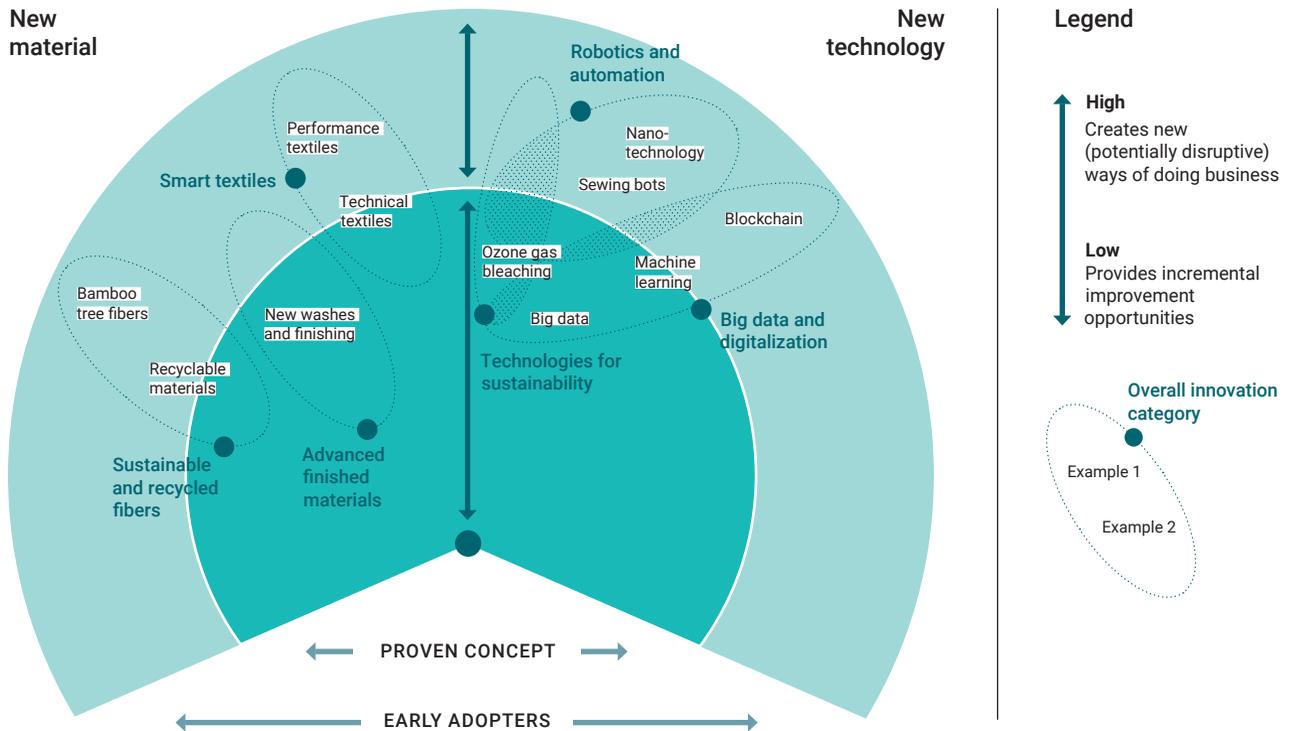
## GAME-CHANGING INNOVATIONS AT A GLANCE

### New technologies and new materials

The global and industry-specific trends mentioned earlier are closely linked to innovation in both production technology and materials. The importance of sustainability, for example, will drive innovation in areas like environmentally friendly production technology. Conversely, innovation itself will reinforce certain global trends. After many years of amortizing old production technology, IsDB member countries are

expected to significantly increase investments in new textiles and apparel manufacturing technology in IsDB member countries are expected to increase significantly to remain competitive while accommodating global trends and to build up capacity for growth in demand. Product innovation is predicted to change input materials as well as final products with regard to aspects like connectivity and recyclability of apparel.

### Innovation radar for the textiles and apparel industry



## **NEW TECHNOLOGY**

### **Big data and digitalization**

IT technology can now process and analyze unprecedented amounts of data. Big data and advanced analytics will create significant potential to improve capacity planning and utilization – reducing the amount of unsold inventory, for example – while gaining further insight into supply and demand. Combined with other digital technologies such as artificial intelligence and machine learning, it may help predict future trends and customer demand volumes. Tommy Hilfiger, for instance, has partnered with IBM and FIT to enhance product design using insights from large-scale image and video analysis. As a result, the company has reduced its lead times. Elsewhere, 3D technology will enable improved digital models in product design, while Internet of Things and blockchain technologies will provide greater transparency and traceability in supply chains (see deep dive in chapter 1.3 for more detail).

### **Automation and robotics**

Industry 4.0 technologies are expected to provide the necessary tools for fast, efficient product design and production as well as customized offers at lower cost. Advances in automation and robotics are enabling innovations like laser-cutting machines, sewing robots, digital textile and 3D printers, and nanotechnology. This is expected to significantly improve productivity and efficiency as well as cut lead times. Automation and robotics will increasingly be used at different processing stages of the GVC and connected to other production modules. Nike Flyprint, for example, was launched in 2018 as the first 3D-printed textile upper in performance footwear, allowing designers to adapt the shape of sneakers using

an athlete's personal data. The advantages of 3D materials include greater flexibility, 100% personalization, and faster production.

### **Technologies for sustainability**

While automation and robotics will enable better utilization of resources, other innovations will help decrease the actual volume of resources required. These include ozone gas bleaching to reduce chemical and energy usage, water-free dyeing solutions for synthetics, and chrome-free leather tanning. The American apparel brand Everlane, for example, has partnered with a textile factory in Vietnam to make its denim production as sustainable as possible. The technologies used include solar panels and reverse osmosis to separate dyeing chemicals from water, allowing 98% of wastewater to be recycled. This example shows how new technologies can process recycled materials and waste into new materials, either within their "own" GVC – using off-cuts, for example – or others such as food.

## PRODUCT INNOVATION

### Sustainable and recycled fibers

It is predicted that resource-intensive raw materials will increasingly be replaced or complemented by new materials such as fibers extracted from bamboo trees or even clothes made using a combination of coffee grounds, algae, and spoiled milk. Piñatex, for example, is a non-woven, vegan textile made from pineapple leaf fibers. These materials will enable manufacturers to recycle all or certain components of a product at the end of its life, affecting various parts of the GVC. Further exploration will be needed to clarify the impact and the degree to which these new materials are scalable to industrial levels.

### Smart textiles

As part of a larger revolution in materials science, technical textiles are expected to grow substantially. Their growth will likely be driven by multinational enterprises in cooperation with startups and government initiatives. Besides the textiles and apparel industry, technical textiles will be of relevance in other major industries such as automotive, medical and construction. For instance, automotive applications include textiles covering seats and steering wheels with integrated sensors that measure the driver's condition. When focusing on apparel, these technical materials, also referred to as smart textiles, can be categorized in two groups:

Esthetic-enhancing materials and wearables that react to input like heat or vibration. The industrial thread company Coats and lighting specialist Osram, for example, have teamed up to develop signal-active illumination, which can be integrated into apparel to increase the visibility of wearers at night to approximately 500 meters.

Performance-enhancing materials that can help wearers by regulating body temperature, for example. Clothing startup Emel and Aris has designed a collection of men's coats integrating Loro Piana cotton with Storm System technology that lets wearers adjust the temperature via a special polymer. Technical textiles will also enable clothes to connect with personal devices. New conductive and non-conductive adhesives and printing, intelligent fibers, sensors, and other communication units will be key components for smart textiles.

### Advanced finished materials

Innovation will also drive the development of enhancements like sophisticated washes and finishing. These multifunctional textiles are expected to possess superior efficiency, durability, and cost effectiveness. Nano-finished textiles will have a reduced environmental impact thanks to lower use of chemicals and effluent treatments.

## 1.2

### GAME-CHANGING INNOVATIONS AT A GLANCE

#### Case studies: Three top techs

# 1

## New technologies: Adidas' smart factory

**A** visionary example of how technological innovation could revolutionize apparel manufacturing can be found at the Adidas Speedfactory. In search of a less labor-intensive and more flexible production process, the German sports equipment manufacturer started the Speedfactory initiative in 2013. Adidas decided to tackle the project in an "open source" way, working with a consortium of universities and machinery suppliers as well as its own innovation, global IT, and sourcing functions. The initiative was also supported by the German government's Industry 4.0 scheme.

The Speedfactory resulted in a wide range of innovations in materials, processes, and machines as well as the combination and integration of automation and IT systems. In partnership with a leading automation technology manufacturer, Adidas installed a modular production system with a variety of new sensors, camera-controlled systems, robots, and 3D printers. New production methods were also introduced such as computerized knitting and laser-powered textile cutting. Most of the production steps for the manufacturing of a new series of high-tech shoes were automatized. All Speedfactory modules are complemented by an overarching production and control system, also compatible with product engineering software. This software enables 3D product configuration and testing of new products and sends all necessary production data directly to the manufacturing modules.

The company met its initial goal to reduce lead time by making the time-to-shop period three times faster, thus enabling a quicker response to new markets. Hyper-flexible modularity means the Speedfactory can be easily placed anywhere in the world. Shortly after opening the first plant in Ansbach, Germany, a second Speedfactory was set up in Atlanta, USA. Each manufacturing plant employed 160 workers fully dedicated to the design and production of the AM4 cities series with a production volume of 500,000 pairs of shoes per year, per plant. In December 2019, Adidas decided to close both Speedfactories by April 2020 and relocate them to Asia, closer to raw material suppliers and know-how.

## 2

**Smart textiles:  
Levi's Trucker Jacket**

**W**hile the benefits of smartphones are indisputable, they can be an unwelcome distraction from the world around us. Whether it's pedestrians, cyclists, or drivers; email, music, or maps – navigating city life and simultaneously operating a smartphone can be a struggle.

In 2017, Google and Levi's joined forces to propose a solution to a problem faced by millions every day. The classic Levi's Trucker Jacket features Jacquard by Google, which enables wearers to wirelessly connect their clothes to their phone. A battery-powered Bluetooth tag is fitted to the jacket's left cuff and acts as a touch-sensitive remote control. Users can program the device so each gesture carries out a specific function: instead of taking their eyes off the road or sidewalk ahead, they can tap, swipe, or hold the jacket's cuff to change music tracks, block or answer calls, access navigation information (delivered by voice), trigger Google Assistant, or get an overview of their day based on calendar appointments and current traffic conditions. Using the accompanying Jacquard app, they can even assign LED-colored lights to specific notifications and link the functions to other platforms like Spotify or GPS tracker Strava.

The Trucker Jacket is available for men and women and comes in several colors, with or without soft Sherpa lining. Unlike many other smart garments, the technology is well-suited to daily use as the jacket is fully washable, easily chargeable via micro USB, and has a battery life of around two weeks.

In 2019, the technology was updated to make the tag smaller than a stick of chewing gum – less than half the size of the original hardware. This paves the way for a new wave of smart clothing, making it more feasible to bring the technology to an even more popular Levi's product: jeans.

# 3

## Recycled textiles: Re:newcell and H&M

**W**hat happens to clothes that are worn out or no longer wanted? Some are sold, donated or handed down to friends or family, but the vast majority end up in landfills or incinerators. Currently, only 1% of the world's clothes are reused, partly down to the fact that cotton and viscose cannot yet be recycled with satisfactory quality on a large enough scale. In most cases, recycling clothing implies downcycling it into lower-quality materials – chopping up the fibers and losing the strength and softness of the original material.

Swedish-based Re:newcell is one of a number of startups seeking to improve the recycling process and close the textile production loop. Re:newcell transforms discarded cotton and other natural fibers into a high-quality recycled raw material called Circulose, which is turned into textile fiber that meets the highest industry specifications. To do this, the company collects used garments with high cellulosic content (cotton and viscose) and shreds them thoroughly. The shredded material then goes through a patented chemical process that removes dyes, polyester, nylon, and other synthetic materials. The resulting slurry is dried to produce a pure, natural Circulose-branded pulp, which is packaged into bales and fed into the textile production cycle as lyocell or viscose. Re:newcell currently produces 7,000 tons of biodegradable Circulose pulp a year. For each kilogram of the material produced, the company estimates it removes two kilograms of CO<sub>2</sub> from the atmosphere.

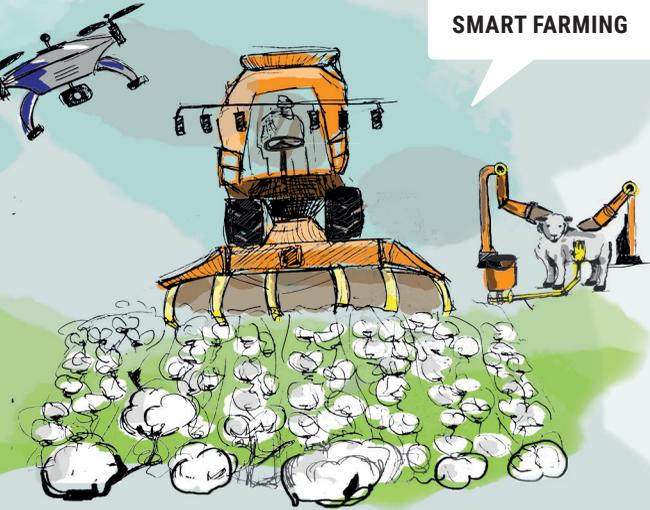
To achieve its aim of using 100% recycled or sustainably sourced materials by 2030 and establishing a circular business model, the H&M Group has taken a minority stake in the Swedish startup, providing it with financial and strategic support. In February 2020, H&M announced that its upcoming Conscious Exclusive collection will be the first ever to feature the newly patented material Circulose. It is also the first time chemically recycled fibers will be used in garments sold at scale. For the H&M dress, Re:newcell used a blend of 50% recycled jeans and 50% wood from sustainably managed forests. Later in 2020 it plans to scale up to 100% recycled clothing, but to meet production volumes for its first batch, Re:newcell opted to use wood pulp, which is already commonly used by textile manufacturers to make materials like viscose.

Re:newcell's goal is to expand production with more plants. "Our target is to recycle a billion garments per year by 2025," says Harald Cavalli-Björkman, head of brand for Circulose. "It's an ambitious target, but it's realistic."

# MATERIALS



SMART FARMING



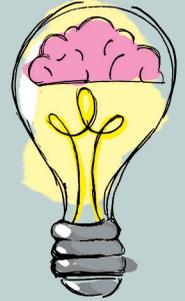
NEW NATURAL FIBERS



# DESIGN



INNOVATION HUB



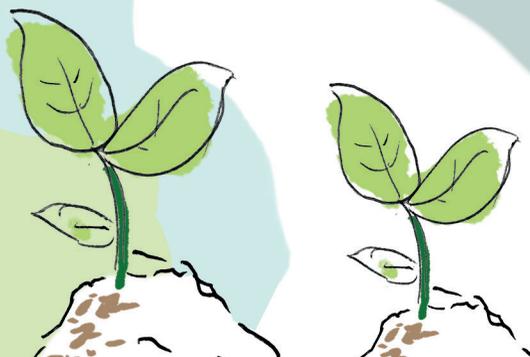
DESIGN  
3D SAMPLING



SMART CLOTHING



TEXTILE RECYCLING



# PRODUCTION

# RETAIL



FULLY TRANSPARENT  
SUPPLY CHAIN



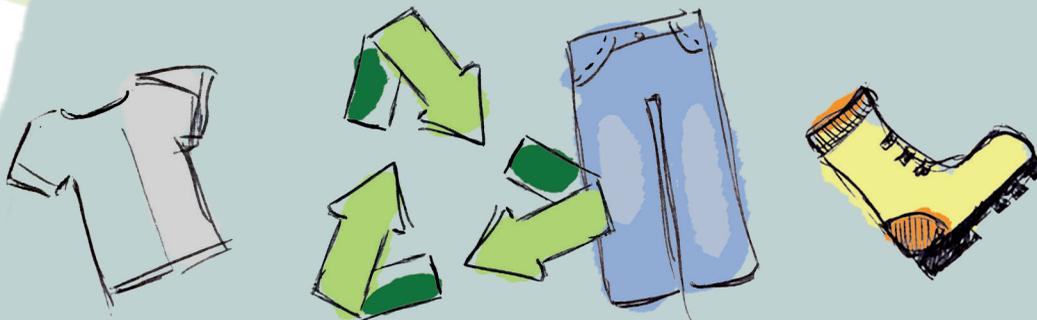
INDUSTRY 4.0



FAST FASHION



ON-DEMAND PRODUCTION



## 1.3

### KEY CHALLENGES AHEAD

#### *Working standards, waste, used textiles, and sensitivity to the global economy*

**B**y its very nature, the textiles and apparel industry faces a unique set of challenges. This section explores the implications of – and potential solutions to – four major issues.

First, fundamental **working standards** are not fully enforced in many low-cost production countries, with issues surrounding aspects like working hours, wages, and safety standards. Following a series of major incidents with widespread media coverage, many countries, including IsDB member countries, have started to monitor working standards more systematically. However, most of the accidents monitored are still caused by structural deficiencies, closely followed by fire. Countries showing only a limited enforcement of regulations may continue to struggle to ensure high working standards. Child and forced labor remain an issue. Digitalization and automation are expected to improve working conditions and reduce work-related accidents and health hazards. It will become increasingly important to ensure equal access to workers' rights, training, and social security for all employees.

The second major challenge for the textiles and apparel industry is **waste**. According to estimates, more than 50% of all fast fashion apparel purchased is disposed of within one year – a trend that is expected to increase. The utilization rate of apparel is significantly lower in both developed and increasingly mature economies, compared to developing countries. For instance, 15 years ago apparel utilization in China was 70% higher than it is today. A significant amount of the fiber input is incinerated, landfilled, or sent to second-hand markets such as Africa. Every kilogram of dumped apparel creates three to four kilograms of greenhouse gases. In future, recyclable materials and more circular business models may help reduce the amount and environmental impact of textile waste.

The third challenge is the **secondary market for used textiles in Africa**, including major member countries. This is a growing issue for local producers and retailers as their own production and brands cannot compete with cheap second-hand textiles. In 2017, 32% of global used apparel was exported to Africa, amounting to a total value of USD 1 billion. In response, local government initiatives have tried to ban used apparel imports or impose higher tariffs to reduce them. Their efforts are not having the desired effects. Engaging in active industrialization and creating a skilled workforce will be key in tackling the secondary market. Ethiopia can be seen as a best-practice country: The government has built industrial zones dedicated to textile production, successfully attracting retailers such as Primark. China has played a crucial role in this, providing investment, expertise, and technology.

**Sensitivity to the global economy** represents a fourth challenge, with a series of events making an important impact. Firstly, recessions and financial crises directly impact supply and demand along the value chain. Secondly, the recent trade conflict between China and the United States has shown that bilateral free-trade agreements are important for stabilizing or increasing trade between countries. Thirdly, global health emergencies increasingly affect the connected global economy. The coronavirus outbreak in China is expected to impact the supply of apparel due to reduced workforce availability, cancellation of events such as the Shanghai Fashion Week, and decreased logistics flows for both sea and air freight. Local health emergencies will have a growing impact on economic productivity in other countries and global trade. Preparing for these kinds of events – by diversifying the value chain, for example – will help reduce disruption.



**Frame with colorful fiber threads**

Most used fiber apparel products are either incinerated, landfilled, or sent to second-hand markets in Africa. The textiles and apparel industry faces major challenges

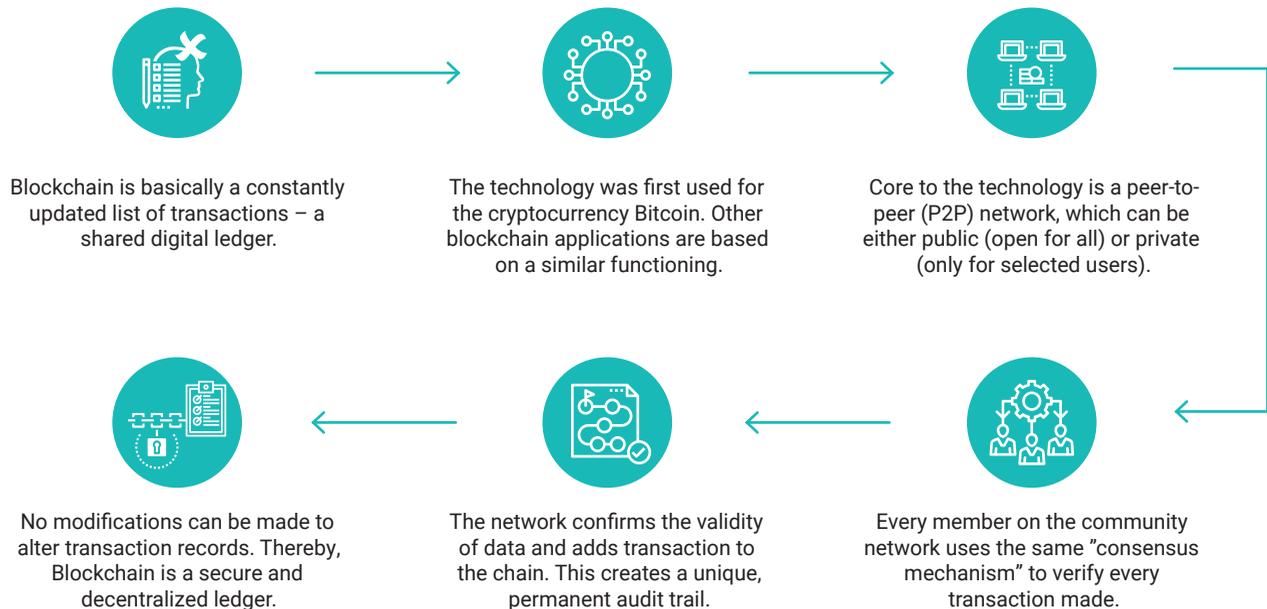
# 1.3

## KEY CHALLENGES AHEAD

### Deep dive: Transparency and traceability along the GVC

#### Blockchain characteristics

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#### COMPLEX SUPPLY CHAINS AFFECT CUSTOMERS AND BUSINESSES

The call for increased transparency and traceability is growing in the textiles and apparel industry, mainly due to shifting customer demands. Today, consumers are increasingly concerned with issues such as labor conditions and sustainable production – they want to be able to trace their garment’s journey all the way from cotton production to shop floor. And in a second-hand market flooded by counterfeits, they also want to verify a product’s authenticity.

Textiles and apparel companies, too, have shifted their focus toward increasing the transparency of their supply

chains for several reasons. Obtaining a clear overview of the production process can be difficult as supply chains are often long and geographically dispersed with many different contributors. When quality or CSR requirements are not met at some point along the chain, a brand’s reputation can suffer. What’s more, opaque supply chains limit flexibility for logistics due to a lack of accurate, real-time data. If products arrive earlier than expected at their destination, for example, they have to be stored, causing additional costs. And if products arrive too late, stores will be out of stock and retailers will have to sell products at a lower price later on.

## **BLOCKCHAIN SOLUTIONS CAN IMPROVE TRANSPARENCY**

One potential solution to these challenges is blockchain. The technology could guarantee a product's sustainability through tamper-proof certification or prevent counterfeits by enabling customers to trace it back to its origin. For retailers, blockchain solutions could help them verify quality requirements or improve on-time delivery information via automated supply chain management.

Blockchain allows the tracking of transactions and creates timestamped validation systems without the need for centralized authorities. Recorded transactions cannot be altered so the data is transparent and trusted, which could be particularly relevant in countries prone to corruption. Digital certification can be attached to materials, enabling responsible purchasing for consumers and directly rewarding ethical or sustainable behavior from producers.

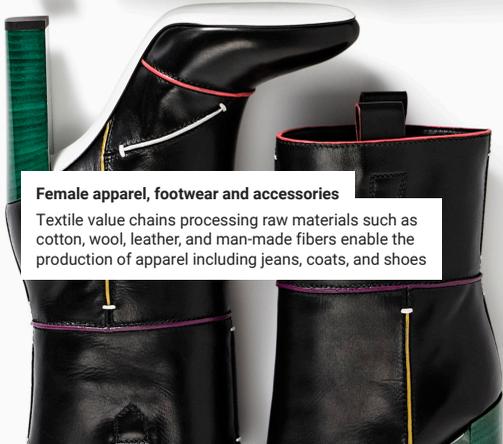
Blockchain platform provider Provenance, for example, aims to provide a blockchain system that can track every material used to create a product in real time, including the dimensions of quality, quantity, and ownership. In 2017 the company collaborated with the London designer Martine Jarlgaard to create a collection that allowed consumers to trace every production step, right back to the source of the yarn, by scanning a QR code on the garment's label.

## **A COMPETITIVE EDGE FOR EARLY ADOPTERS**

Blockchain technology is still in an early stage and most projects are currently in a pilot phase to test use-case feasibility. Fashion retailer C&A, for example, is pioneering a blockchain solution in partnership with Bext360 to trace organic cotton through its supply chain. There are many hurdles still to overcome, but blockchain could shape fundamental principles in the textiles and apparel industry

by 2030. It is highly likely that sound blockchain solutions will have been developed, tested, and implemented by 2030 and become an industry-wide standard, making full transparency a basic requirement for businesses to participate in the GVC.

Early adopters will have a competitive edge. IsDB member countries in particular can gain an advantage by proactively embracing the transformation. By increasing transparency of their supply chains, IsDB member countries can actively position themselves as suppliers for sustainable, high-quality products. This is powerfully illustrated by the leading luxury conglomerate LVMH, which partnered with Microsoft and ConsenSys to create a blockchain solution to help brands like Louis Vuitton prove the authenticity and sustainability of their products along the whole supply chain. In the near future, it might only be possible to supply certain companies by implementing a blockchain verification system, whether for the seed grain used in the very first production step or the assembly of a leather bag in the last part of the supply chain.



**Female apparel, footwear and accessories**

Textile value chains processing raw materials such as cotton, wool, leather, and man-made fibers enable the production of apparel including jeans, coats, and shoes



# 2

# TEXTILES AND APPAREL INDUSTRY – WHERE ARE WE NOW?



## **Key for employment and the economy in IsDB member countries**

Textiles and apparel make an important contribution to GDP and export volumes in IsDB member countries. As global demand increases, member states should continue to invest

## **IsDB members expected to increase global market share**

Although China and India have the highest market share, IsDB members are well established. They can improve their position by benefiting from shifts in supply and demand, applying modern technology, and attracting investment

## **Materials continue to compete on functionality and price**

Depending on the final product, existing natural fibers, such as cotton and wool, and new materials, such as man-made fibers, compete against each other on functionality or price

## **Upgrading machinery can boost production in IsDB member countries**

Innovation will lead to new machinery and technologies in textiles and apparel production and is expected to significantly improve resource utilization and productivity

## **Sustainability is gaining importance across the industry**

There is a growing desire to reduce the environmental impact of the value chain through new materials and production methods that, for example, reduce the amount of water and chemicals required for dyeing

## 2.1

### IMPORTANCE OF THE TEXTILES AND APPAREL INDUSTRY Impact on economy, employment, environment, and investment

The global **textiles and apparel industry** market had a retail market value of USD 2.2 trillion in 2018 and is projected to reach USD 3.3 trillion in 2030, growing at a CAGR of 3.5%. Population growth, rising levels of disposable income, and rapid urbanization in developing countries are likely to drive demand in the future. According to estimates, the global textiles and apparel industry accounts for approximately 2% of global GDP.

The textiles and apparel industry often works as a valuable driver for countries toward sustained national and economic development. It is frequently considered a starter industry due to its low fixed costs and emphasis on labor-intensive manufacturing. When the industry further expands, it serves as a base on which more technologically sophisticated industries can develop. At different times in

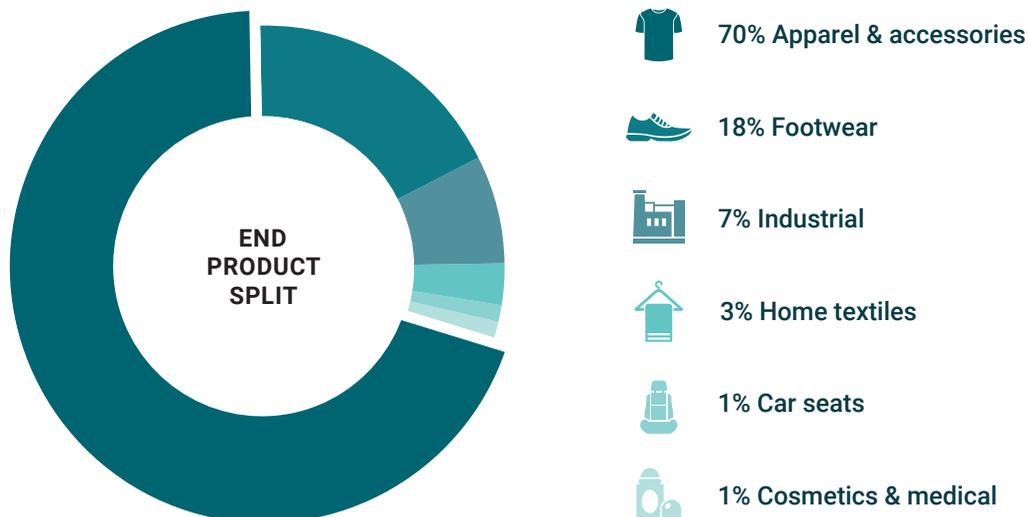
history, the sector has served as an economic springboard for the United States, Europe, Japan, and China.

Currently, the industry plays a vital role for many of the 57 IsDB member countries. In turn, they are fundamental to supplying the global industry with raw materials and manufacturing locations. IsDB member countries make up 15% of the USD 190 billion global market for raw materials like cotton and wool, as well as 15% of the global export value of USD 807 billion for textiles and apparel, as shown below. The most important categories of product usage by end industry are apparel and accessories with a 70% share of value. The textiles and apparel industry thus has major effects on the overall economy, employment, environment, and investment.

#### Largest export markets for textiles and apparel [percentage of total export value in USD]

China	Vietnam		5%
	India	Bangladesh	4%
	Turkey	Hong Kong	3%
	USA	Pakistan	Indonesia
European Union	Other IsDB countries	Rest of world	
34%	4%	9%	

## Product usage by end industry [share of value in USD]



Textiles and apparel are crucial to the **economies** of numerous IsDB member countries, comprising a major part of their exports. In Egypt and Pakistan, the industry makes up 11% and 59% of total exports respectively. The trend here is positive: IsDB member countries recently experienced an impressive average growth rate of up to 10% in exports from 2017 to 2018, which outperforms several industries and should boost GDP growth. The fastest-growing countries from 2017 to 2018 were the United Arab Emirates, which grew its clothing exports by 43% to USD 3.5 billion, and Tunisia, which saw 41% growth to USD 3.2 billion.

The importance of textiles and apparel is also reflected in industry **employment**. Excluding the associated agricultural sector, it formally employs around 60 million people worldwide, although the informal sector is estimated to be five to eight times larger. In Bangladesh, for example, the industry's formal sector employs around 4.4 million workers. For women and young people in particular, it is an especially significant source of employment. With an expected CAGR of 3.5% by 2030, the industry is set to create new jobs. Growing demand in two key areas will also offer countries the potential to differentiate themselves by investing in more

skilled labor: firstly, greater use of more complex materials like smart and technical textiles, and secondly an increase in new technologies such as automated cutting machines, 3D printing, and artificial intelligence.

As a resource-heavy industry, the growth of the textiles and apparel sector is having a considerable impact on the **environment**. Textile production currently causes 20% of freshwater pollution worldwide. But producers and governments are starting to take notice. Policy change around wastewater legislation, for example, aims to reduce water contamination through toxic materials used to dye clothes. As global concern for sustainability grows, this aspect of the industry will continue to attract attention.

As the overall industry continues to grow, so too does private and public **investment**. According to the Egypt Independent, the Egyptian government is investing more than USD 1.6 billion in expanding dyeing and processing capacities. Textiles and apparel also attract major foreign direct investment for IsDB member countries and the industry's promising future could lead to gains for local governments and strategic investors.

# 2.1

## IMPORTANCE OF THE TEXTILES AND APPAREL INDUSTRY Market of potentials

The textiles and apparel industry has a major impact on economies, employment, investment, and the environment. In light of this importance, this study analyzes five GVCs to present a comprehensive picture of the current state of the industry in IsDB member countries, as well as key trends for the coming decade and the most significant challenges and opportunities to be faced.

 Plant-based     Animal-based     Man-made



### PRODUCTION VALUE

**520**  
bn USD



**COTTON**

**290**  
bn USD



**WOOL**

**90**  
bn USD



**SILK**

**350**  
bn USD



**LEATHER**

**950**  
bn USD



**MAN-MADE  
FIBERS**

**RETAIL VALUE**

## 2.2

### **IsDB COUNTRIES' CURRENT POSITIONING**

#### ***Strength of member countries in raw material production and apparel manufacturing***

**A**lthough China dominates the textiles and apparel market, **IsDB member countries play an important role** in the GVC. However, the precise stage of the process and level of involvement can vary widely from state to state. Countries such as Uzbekistan, Turkmenistan, and Sudan focus mainly on raw material production but are attempting to increase the added value of their respective domestic textile industries. In terms of raw materials, IsDB member countries are responsible for 25% of global cotton production, 26% of wool and 15% of raw leather production. Eight of the world's top 15 cotton-producing countries are IsDB member countries. Countries such as Pakistan and Turkey not only enjoy the availability of raw materials, their value chains are also increasingly vertically integrated as they process textile fibers into finished products. Bangladesh, a well-established apparel manufacturer, however, relies on imports of raw materials that it then turns into products such as t-shirts and sweaters. It is the world's second-largest apparel exporter, accounting for 7% of total apparel exports. When it comes to branding, marketing, and retail, local brands do exist but seldom attain international attention.

The **importance of IsDB member countries in processing is expected to increase**. This is driven by rising labor and production costs in China, as well as a relocation of some of the GVC to either neighboring countries or countries that are closer to final sales markets. Digitalization and new processing technologies also present highly attractive opportunities for IsDB member countries. Installing advanced textile- and apparel-making equipment like laser-cutting, automated knitting or sewing robots will boost production efficiency and could enhance the countries' competitive advantage. Currently, production technology in some IsDB member countries is in need of renewal, whereas

other countries such as Uzbekistan have already started to heavily invest in new production technology.

An observation applicable globally as well as to IsDB member countries is that **materials are competing against each other**, driving innovation in new fibers. Man-made fibers can represent a cost-competitive and better-performing substitute for natural fibers, which will affect the future selection of textile raw materials. IsDB member countries Indonesia and Turkey are key players in this segment, whereas other countries focus mainly on natural fibers.

**Sustainability is increasingly important.** As consumers and brands become more aware of the environmental impact of apparel, IsDB member countries need to tackle areas like pollution and water consumption. Some member governments, such as Bangladesh, have started to implement measures in this direction, while more and more businesses are considering adopting new technology and materials. By establishing trackable, sustainable production methods, IsDB member countries can use this unique selling position to develop their own authentic brands.



Colorful rugs lined up for sale at a retailer in Turkey

ISDB member countries contribute to the fabrication of several types of textile products, including apparel and home textiles

## 2.3

# INSIGHTS INTO THE TEXTILES AND APPAREL INDUSTRY

## *From fibers to garments and the shop floor*

**G**VCs indicate how various input factors are transformed and combined through different steps to arrive at finished products. They help identify the key stages at which value is added in the textiles and apparel industry, such as input selection, production, primary and secondary processing, and retail.

This study looks at seven major steps within the value chain for textiles and apparel. The first of these is the selection of **input factors** ①. These include seeds, fertilizers, and irrigation supplies to grow crops; feed and water to raise livestock. For synthetic products, input factors include the various natural sources of petrochemical products.

The next step in the value chain is **production** ②. For natural products this stage involves creating the necessary environment for plants and animals to grow, before the extraction of relevant parts for further processing – shearing a lamb’s wool, for example. For synthetic products this stage involves mixing or assembling the correct input factors.

**Primary processing** ③ then combines natural and synthetic products with fiber structures to create a continuous fiber filament that can be woven, knitted, crocheted, or tied to create a textile structure. For skin-based materials, a process of soaking, splitting, tanning, and crusting results in leather surfaces.

The transition from primary to **secondary processing** ④ also represents the step from the textiles to the apparel sector. This step includes further processing of textiles and skins to produce apparel such as denim, shirts, and sweaters. It also includes processing of materials for areas like home textiles, furniture, or car interiors.

Upon completion, final products are then distributed through different **retail** ⑤ channels to customers. For simplification, retail comprises wholesale too. The textiles and apparel GVC is a buyer-driven chain in which lead firms

– in this case retail conglomerates such as Inditex, H&M and PVH – determine the power distribution and profit allocation. At this stage, most value creation takes place in branding and marketing.

**Trading** ⑥ occurs throughout the value chain. Merchants and wholesalers trade raw materials and semi-finished products, while in the latter parts of the GVC, retail sourcing agencies and importers connect processing companies with brands.

Moving commodities between the different steps in the value chain is often handled by third-party **logistics** ⑦ providers. It is a critical factor, and one that is growing in importance, as brands require increasingly faster speed to market.

This description serves as a broad overview. After all, the GVC is a complex structure. However, it provides a valuable insight into the processes and activities involved in the textiles and apparel industry and can be applied to each examined material. Ultimately, it highlights several key questions, the answers to which are of critical importance to IsDB member countries and potential investors.

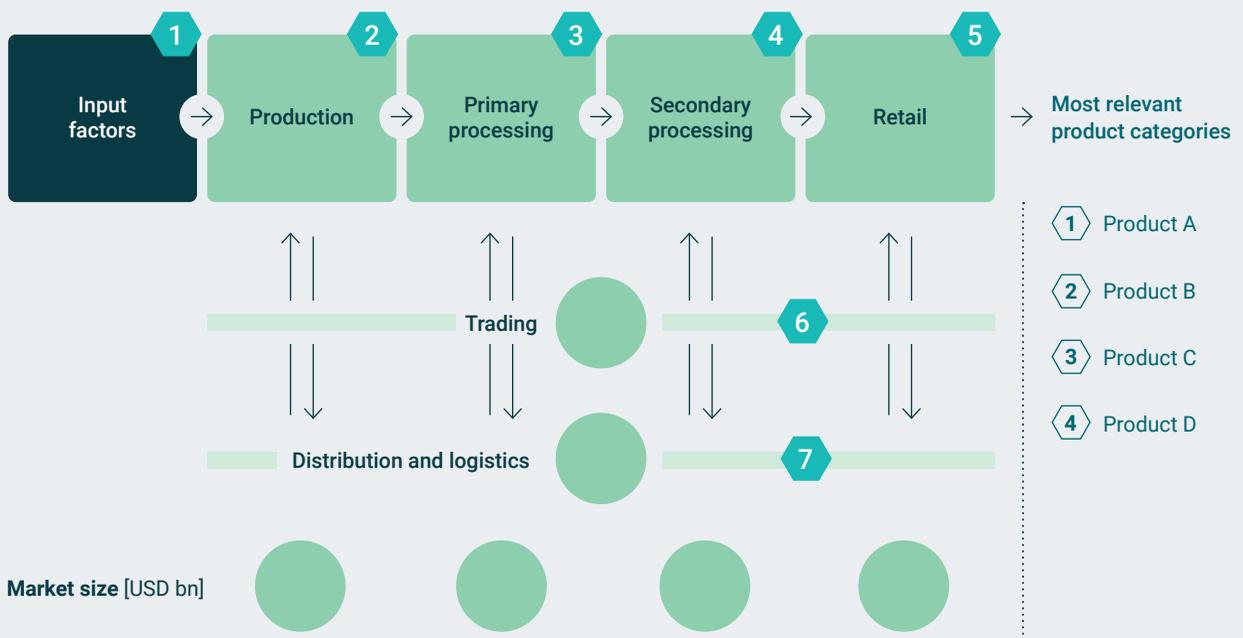
Crucial questions that need to be answered are:

What are the main trends driving demand and shaping global industries?

Which areas of each global value chain show the greatest market potential?

How are IsDB member countries currently positioned and how can they unlock the most value?

## GVC overview



## 2.3

# INSIGHTS INTO THE TEXTILES AND APPAREL INDUSTRY

## *Cotton, wool, silk, leather, and man-made fibers*

As shown in section 2.2, the IsDB identifies several sectors as a basis for analyzing potential, opportunities, challenges, and risks in the textiles and apparel industry. Within this group, five GVCs have been chosen for closer analysis: **cotton, wool, silk, leather, and man-made fibers**. For each of these, this chapter scrutinizes the GVC, outlines key trends until 2030 and beyond, identifies challenges, and highlights the positioning of IsDB member countries. The selection of these five specific GVCs is based on several factors.

**Cotton** is particularly important for investors as it is the most widely used natural raw material in the global textiles and apparel industry. In 2018, IsDB member countries accounted for approximately 25% of global production, with Pakistan, Uzbekistan, and Turkey the largest producers. There is significant potential for further value chain integration through the evolution of primary and secondary processing stages.

**Wool** is among the most traditional raw materials in the production of textiles and apparel. With an approximate share of 26% of global production in 2018 – the highest of all value chains in this sector – it is highly relevant for the economies of IsDB member countries, particularly Morocco, Iran, and Turkey as the group's largest producers.

In terms of growth, **silk** offers considerable potential thanks to an expected CAGR of 8% from 2016–2021. Uzbekistan is the largest producer among IsDB member countries, ranking in the top three globally, with Iran seventh and Afghanistan tenth worldwide. Development programs to expand production in each country are already in place. Innovation could also change the landscape, with developments such

as spider silk opening up opportunities for investors in IsDB member countries.

**Leather** is an important component of the footwear and luxury apparel industries. IsDB member countries accounted for approximately 15% of global raw leather production in 2015, with Sudan, Pakistan, and Uzbekistan the largest producers. There is room for value addition, especially through expansion of processing infrastructure. A forecast CAGR of 6% from 2018 to 2021 suggests the outlook for the retail market is promising.

Competitive prices and beneficial performance characteristics like strength and elasticity make **man-made fibers** a strong source of potential growth in apparel and home textiles. Between 2018 and 2030, the market value of synthetic and cellulosic fibers is expected to grow at 4% per year. IsDB member countries currently account for 7% of global production, with Indonesia making up 3% of production worldwide, Turkey contributing 2%.





# COTTON

- **In the future, the competition from man-made fibers could reduce overall cotton demand**
- **Pakistan and Bangladesh are the main IsDB member countries in cotton production and processing respectively**
- **IsDB member countries should invest in infrastructure and education to strengthen their global position**

### **2030 AND BEYOND – OPPORTUNITIES FROM INCREASED LABOR COSTS IN CHINA AND INDIA**

Rising labor costs in China and India will lead to a regional shift of production and processing activities, resulting in opportunities for cotton growers and processors in West Asia in particular, as well as Africa. At USD 200 per month, the average minimum wage for workers in China is more than twice the amount garment workers receive in Bangladesh. In Morocco, the denim sector is expected to significantly increase its apparel exports by raising volumes and capturing markets with greater value. It is well positioned to gain a larger share of exports to the EU due to its proximity to Europe, lower labor costs, and duty-free trade.

Further opportunities may arise as consumers increasingly value sustainability in products and production methods. Today, organic cotton makes up just 1% of global cotton production but will grow significantly through 2030. India is the largest producer with around half of the world's organic cotton production, followed by China, Kyrgyzstan, and Turkey. Large retailers like Inditex have committed to using more sustainable, organic, or recycled cotton by 2025, which is increasing pressure along the value chain for more sustainable farming and processing techniques. Producers

that are quick to recognize this trend have the opportunity to gain significant market shares and increased market value as the price premium for organic cotton is up to 60% higher than for conventional cotton.

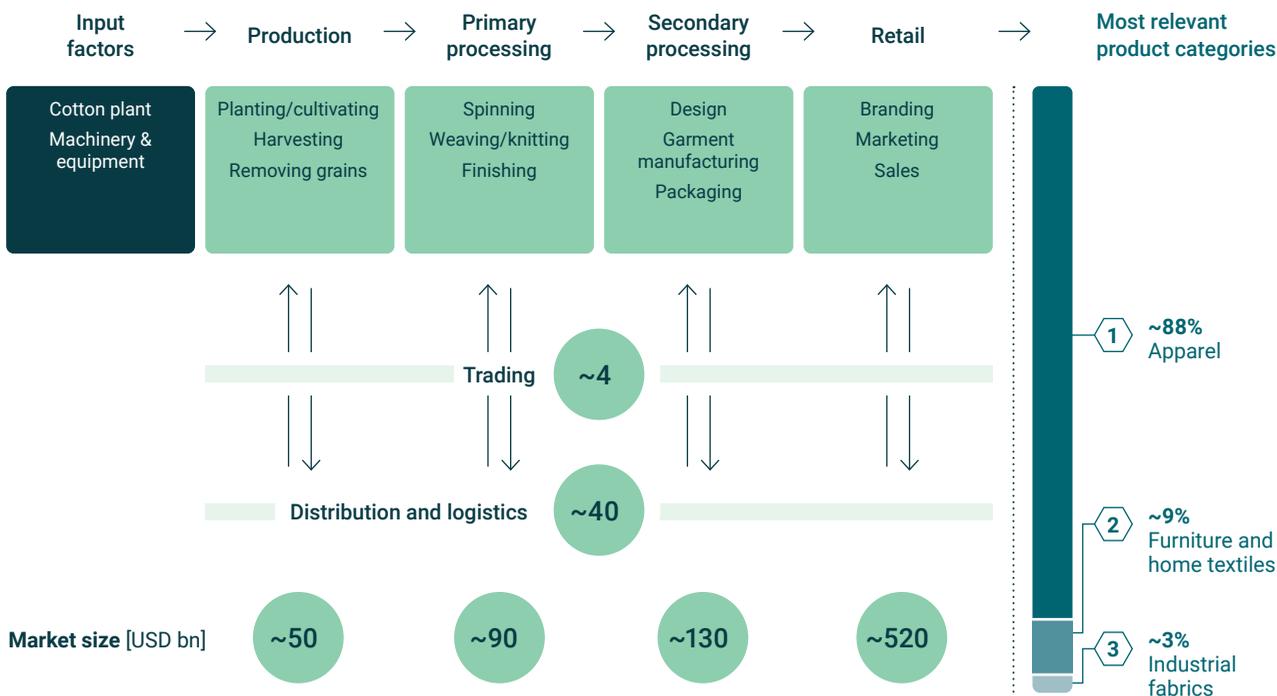
### **CHALLENGES – PRESSURE FROM MAN-MADE FIBERS AND CLIMATE CHANGE**

Lower prices for man-made fibers – especially polyester, which is often blended with cotton – are putting cotton under pressure as a raw material. Chinese domestic synthetic prices, for example, are currently below USD 1,200 per ton, which is expected to reduce the price of raw cotton from USD 2,015 per ton in 2018 to around USD 1,610 per ton by 2030.

As a crop, cotton and its production are influenced by climate change and the effects of rising temperatures and water shortages. Increasing desertification leads to fewer areas eligible for cotton cultivation, while flooding from more frequent rainfall impacts cultivation areas. In India, for instance, floods have washed away seeds from farms, resulting in a reduced yield.

### **POSITION OF ISDB MEMBER COUNTRIES – INVESTMENTS IN FURTHER DEVELOPMENT REQUIRED**

Pakistan, Uzbekistan, and Turkey already have a very good position within global raw material production, as do Benin, Mali, Burkina Faso, Côte d'Ivoire, and Turkmenistan, which are all among the world's top 15 producers. Bangladesh is among the most important processing countries and has the second-highest global import levels of raw cotton for further processing, followed by Pakistan, Turkey, Indonesia, and Malaysia. This also makes Bangladesh one of the world's largest exporters of textiles and clothing, often for



Cotton is the most widespread non-food crop in the world and can be processed into cotton lint and fibers like denim for the textiles and apparel industry. It provides income for more than 250 million people, employing almost 7% of all labor in developing countries. Currently, 88% of the cotton market value is used to produce apparel, 9% for furniture and home textiles, and the remaining 3% for industrial products.

The main producers of raw cotton are India, China, the United States, Brazil, and Pakistan, which account for more than three quarters of global production. Cotton production has a market value of

approximately USD 50 billion. Global cotton production volume reached 24 million tons in 2018 and is expected to continue growing at a CAGR of 1% through 2030. This growth will predominantly be driven by an expansion of the production area and increased yield per hectare. In processing cotton from raw material into end products, around one third is currently exported; however, the industry is shifting from trading raw cotton to producing cotton yarn to capture more local added value. The GVC is buyer driven and most value is added in the retail stage, which reached a value of about USD 520 billion in 2018.

Western fashion conglomerates like Inditex, Gap and H&M. As labor prices in India and China rise, markets in Africa and Asia like Egypt, Pakistan, or Bangladesh can benefit from their own lower labor and production costs. They could establish themselves as final garment manufacturers to capture added value and benefit from their proximity to retail markets. These countries can also strengthen their positioning within the industry by further investing in innovative production processes like automated weaving machines to produce high-quality garments and apparel.

IsDB member countries not yet established in the industry would need to invest in infrastructure and build up their knowledge to be incorporated in the GVC for cultivation and sustainable cotton processing. This would allow them to benefit from their proximity to Europe or the emerging Chinese market.

# WOOL

- Demand for wool is expected to remain constant but is threatened by alternative fabrics for apparel production
- IsDB member countries hold more than one quarter of the global wool market
- New strategies around innovation and sustainability could improve IsDB member countries' long-term competitiveness

### 2030 AND BEYOND – CHANGING TRENDS AND TECHNOLOGICAL INNOVATION

Greater interest in sustainability is making natural fibers like wool more attractive. Leveraging its sustainable credentials could benefit the industry by increasing the proportion of natural fibers in apparel production, for example, or increasing transparency through traceability. Merino wool is becoming increasingly relevant due to its use for established woolen products as well as sportswear and premium textiles. These trends are also driven by growing middle-class demand – especially in China – which will continue to shape the wool industry in the future.

In production, technological innovation may help reduce costs while simultaneously improving labor conditions and animal welfare. Robotic sheep-shearing systems, for instance, currently under development by Australian Wool Innovation, could lead to a safer working environment, increased efficiency, and a less stressful shearing process for sheep. New knitting machines have also been introduced, contributing to improved efficiency. Traditional methods result in 8-10% waste, but 3D knitting could eventually result in zero-waste production.

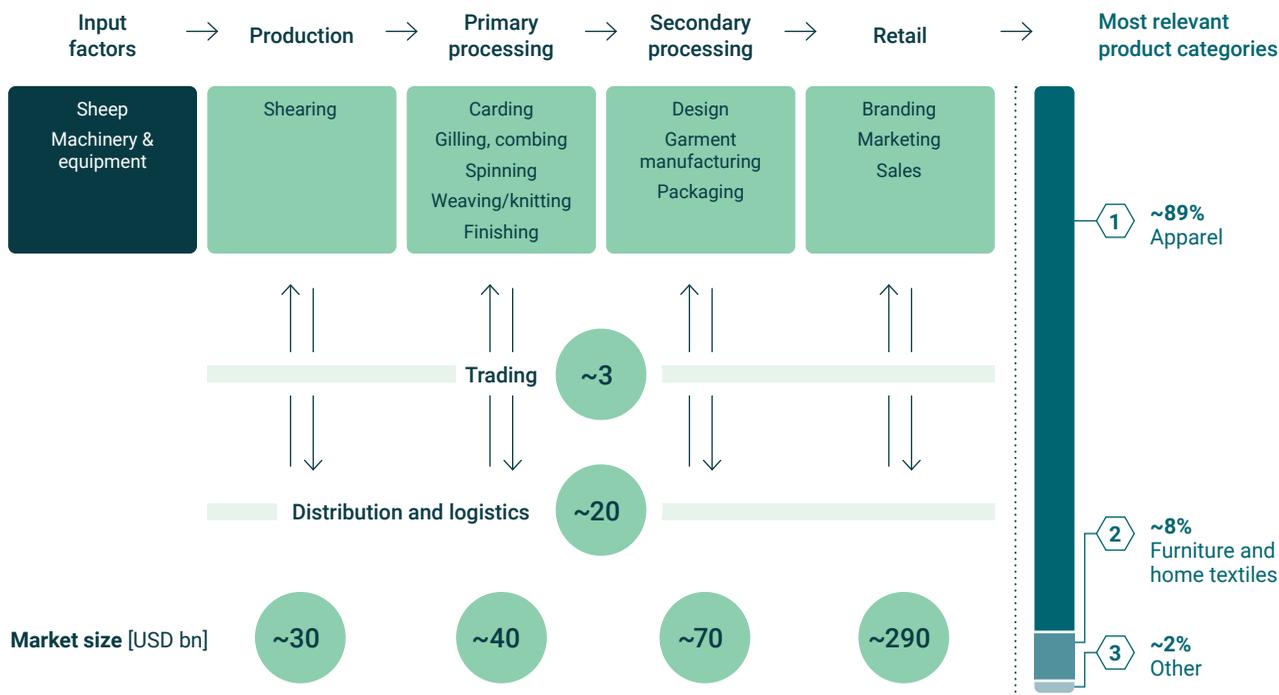
### CHALLENGES – PROFITABILITY AND SUSTAINABILITY

One challenge for the wool industry is increased competition from both man-made and other natural fibers, which can be cheaper to produce and more versatile. In 2015, wool made up 2% of the fibers used globally in the fashion industry. In 2030, wool is challenged by the prospect of being increasingly replaced by synthetics. This is linked to another long-term trend, as sheep farmers increasingly switch from wool to meat production for two main reasons: Firstly, population growth is increasing demand for food, which is raising the price of sheep meat compared to wool; and secondly, meat production enables farmers to potentially optimize farmland use, which has limited availability.

A further challenge is climate change. Rising temperature levels will affect supplies of water and forage for sheep farms around the globe. Recent drought and bush fires in Australia have decreased wool production by approximately 12%. With this trend expected to continue, it is imperative that the industry adapts.

### POSITION OF IsDB MEMBER COUNTRIES – INVEST IN EXPERTISE AND COLLABORATION

IsDB member countries account for 26% of global wool production. Morocco, Iran, Turkey, Sudan, Pakistan, Kazakhstan, and Turkmenistan are all among the world's top 15 producers. In order to leverage the opportunities in the global wool market, they could focus on holding and expanding their position in the long term. One way to do this would be to leverage the rising demand in merino wool for luxury shirts and active wear favored by the growing Chinese middle class. This will not only allow above-average mark-ups but also facilitate a focus on an expanding, quality-conscious market.



Wool is one of the most traditional sources for textiles and apparel fabrics. It is not only a renewable resource but also among the most recycled fibers, comprising 5% of the recycled fibers market. The market size for end products containing wool can be split into three main categories by value: 89% apparel, 8% home textiles, and 2% other.

In 2018, about 2 million tons of natural wool fiber were produced, including fleece-washed, shorn, and pulled wool, but excluding carded or combed wool from sheep or lambs. China is the largest producer,

with 24% of global volume, followed by Australia (15%), and New Zealand (7%). The price for wool on the world market was at a high of USD 14.3 per kilo in 2018. The overall wool market is currently valued at USD 30 billion and is forecast to grow at a CAGR of 1.5% through 2030. This can be attributed to demand from both existing and new markets for products such as active wear and luxury goods, as well as an increase in disposable income, especially in East Asian countries.

The IsDB could support its member countries in their efforts to become quality producers and manufacturers of wool apparel by setting up a knowledge hub and an investment fund to help share expertise and introduce new technologies. Collaboration among member countries is key to successfully leveraging the diverse skill sets of each country. This would allow IsDB member countries to share knowledge and best practices as well as engage in collaborative problem solving, helping them maintain and even improve their long-term competitiveness.

# SILK

- **Growing purchasing power in emerging markets is expected to increase demand for silk and raise raw material prices**
- **Several IsDB member countries are active players in raw silk production, with Uzbekistan the group's largest producer**
- **IsDB member countries could consider expanding silk production as well as product and production innovation**

### 2030 AND BEYOND – INCREASED DEMAND AND INNOVATIVE PRODUCTS

Demand for silk is expected to experience continuous growth through 2030 and beyond thanks to increased purchasing power in emerging countries, particularly China and India. On a global level, non-textile applications for silk, such as cosmetics and medicine, are expected to show a 7% CAGR from 2017 through 2021. An increased focus on sustainability is expected to fuel a 7% CAGR in eri silk through 2030 as the silk is obtained without killing the silkworm. The net result of this diversification will be a more fragmented market structure.

Innovation is also set to change the landscape, with new synthetic and genetically modified products being brought in. The German materials manufacturer AMSilk, for example, has developed a biodegradable synthetic spider silk that outperforms natural fiber-based products in terms of strength and flexibility. In the United States, Kraig Biocraft Laboratories has patented a new technology that modifies genetic sequences to alter the characteristics of silk. This involves genetically engineering silkworms by introducing spider genes into the genetic sequences. The resulting fiber

is composed entirely of protein produced naturally by the silkworm. Far tougher than steel, it can be used for products like bulletproof vests.

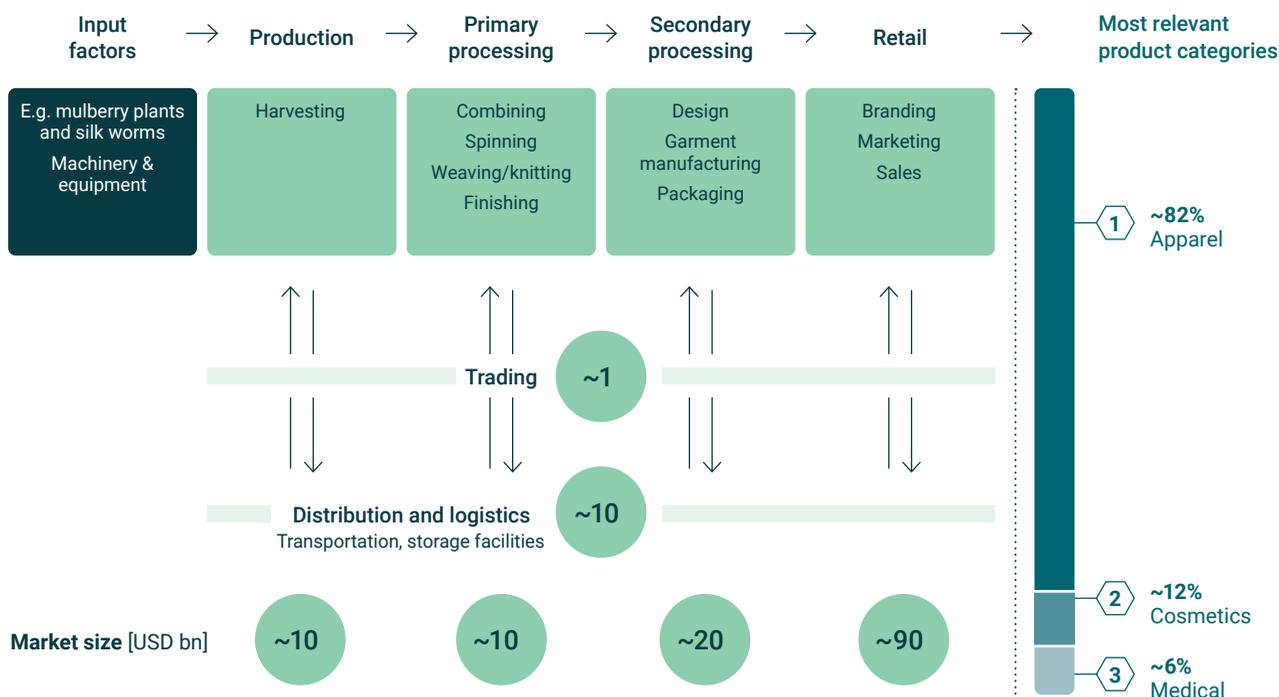
### CHALLENGES – CHEAPER FIBERS AND CHANGING CONSUMER AWARENESS

One major challenge for the silk industry is its high material cost of around USD 50 per kilo for Chinese silk. It is also labor-intensive to produce, with 750 kilograms of mulberry yielding just three kilograms of silk yarn. Further challenges include China's domination of raw material supply, giving its producers a strong influence on market prices, and the increased use of cheaper substitutes like cotton and polyester to create products with similar characteristics to silk.

Production can affect workers' health: Women have a high risk of endometrial cancer due to silk dust and of miscarriages because of dangerous vapors caused during silk reeling. Toxic products such as benzidine, lead acetate, and heavy metals are often used to dye materials and can damage workers' health. With consumers increasingly expecting greater social and environmental sustainability, producers must identify alternative methods to ensure silk remains an attractive retail option.

### POSITION OF ISDB MEMBER COUNTRIES – TARGET NICHE MARKETS WITH GOVERNMENT SUPPORT

IsDB member countries currently hold approximately 1% of the overall silk market, which is dominated by China. Uzbekistan and Iran are the leading IsDB member countries for silk production. However, growing demand and product innovation can result in attractive opportunities to exploit new market niches for IsDB member countries.



Silk is an animal protein fiber cultivated from the cocoon of silkworm larvae. The continuous silk filament extracted can be further processed to produce premium textile products as well as cosmetics and medicine. There are three main types of silk: mulberry accounts for around 81%, tussar makes up 12%, and eri silk 8%. Approximately 90% of global mulberry production and almost all other silk production occurs in Asia, with China accounting for 87% of global export volume. Uzbekistan is the largest silk producer among IsDB member countries, with 1,200

tons compared to China's 142,000 tons. India leads the global import market with 53% of the volume.

In 2018, global silk production reached 165,000 tons. Global silk market production is projected to show a very high CAGR of 8% through 2030. Prices for raw silk have increased by 13% since 2015, a trend expected to continue as demand for different silk applications grows. The production is expected to attain a value of USD 20 billion by 2030.

This will require systematic market development through targeted policy setting and investment in productivity gains. Uzbekistan, for example, the largest IsDB country for silk production, is seeking to expand its industry via subsidies and tax incentives for producers. This includes corporate tax exemptions through 2023 on income generated from silkworm cocoon harvesting and the production of finished silk products. Iran is incentivizing domestic silk production by distributing silkworm eggs and increasing import tariffs for semi-finished silk products.

Productivity gains are equally important. Uzbekistan, for example, is importing Chinese mulberry bushes, which produce leaves more often than the Uzbek mulberry bush. Other IsDB member countries may want to evaluate entering the silk market. Afghanistan and Azerbaijan, for instance, have the necessary climate and a strategic location between Asian and European sales markets.

# LEATHER

- **Despite a fall in volume, overall sales value for leather footwear as the strongest end product market is expected to increase by 2% per year due to premiumization**
- **Sudan is the largest IsDB raw leather producer and the eighth-largest worldwide**
- **Government intervention can help put Sudan and other IsDB member countries on the global map by creating a sustainability label, building infrastructure, and incentivizing manufacturers**

### 2030 AND BEYOND – MORE PREMIUM, MORE SUSTAINABLE LEATHER SHOES

The outlook for the leather market will be closely linked to the future of its main end product: leather shoes. Consumers are demanding more modern designs and high-quality products, leading to a premiumization trend. At the same time, however, demand for leather shoes is decreasing. Overall, the leather footwear market is expected to grow by 2% between 2018 and 2023 due to a price increase per unit of 4% and despite a 2% decrease in volume. Consequently, the demand for high-quality leather is expected to rise, while the mass market will see an increase in competition.

The leather industry is showing signs of change in terms of sustainability, with an expected increase in metal-free tanning, as well as organic and synthetic leather. The latter is forecast to show a high CAGR of 7% through 2024. While synthetic products are traceable and do not depend on chromium or animal inputs, they do include plastic components. As the accepted standard method to treat liquid waste, common effluent treatment plants (CETPs) are expected to become more widespread in developing

countries. With multiple tanneries sharing a single CETP, this could lead to geographical consolidation, resulting in greater efficiency and cost savings.

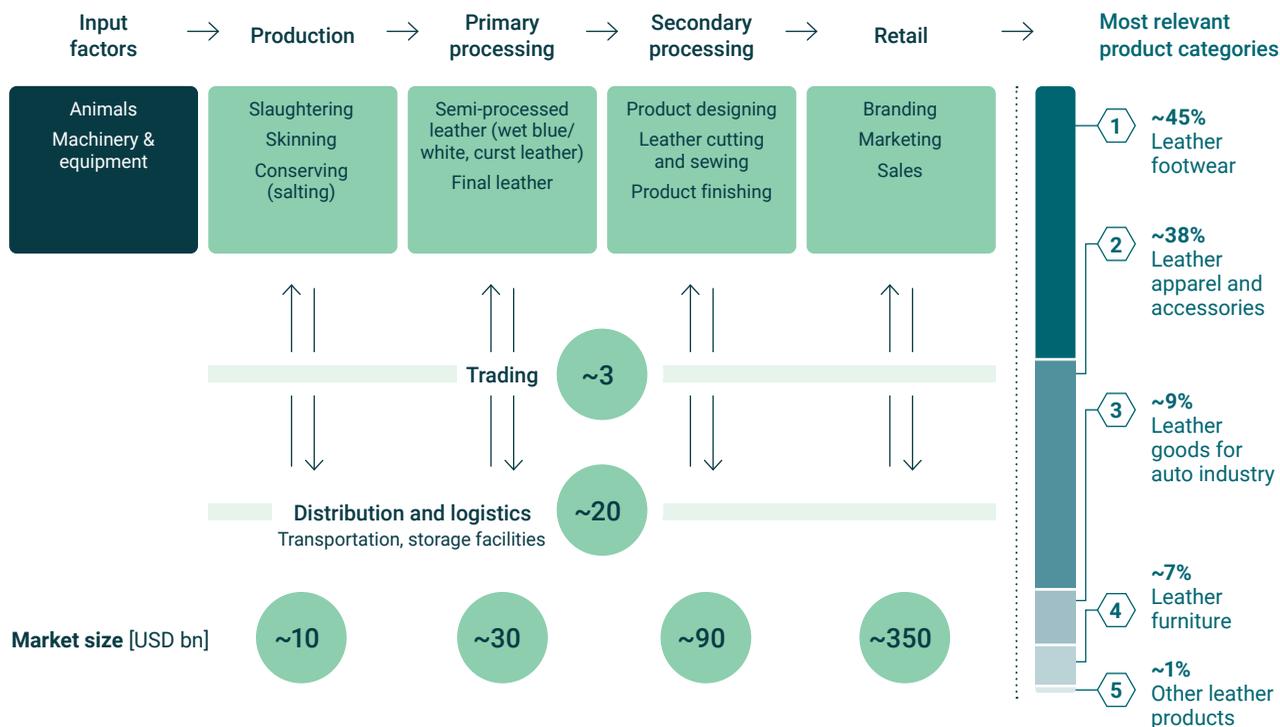
### CHALLENGES – STRICTER REGULATION AND COMPETITION FROM ATHLEISURE SHOES

Increasing consumer awareness of sustainability is expected to increase pressure on the industry to reduce its ecological footprint and improve working safety. Tanning often uses chemical agents like chromium, which can cause serious allergies as well as pollute soil and groundwater. Some governments are responding: China, for example, has introduced strict tannery operation policies, controlling chromium levels and treatment, which have forced smaller players to merge in order to comply.

The industry has experienced a drop in consumption volume for leather footwear in recent years, although the market value is increasing due to premiumization. The decline in volume is a trend that is expected to continue as demand moves to more comfortable athleisure shoes, which are made from synthetics and other textiles.

### POSITION OF IsDB MEMBER COUNTRIES – ADDITIONAL MARKET SHARES ARE HIGHLY ACHIEVABLE

In 2018, IsDB member countries produced about 1 million tons of raw leather, representing 15% of global production. The main producer is Sudan, the eighth largest worldwide, with Pakistan and Uzbekistan the second- and third-largest producers among IsDB member countries. Broken down, IsDB states account globally for 35% of goat, 31% of sheep, and 13% of bovine hide production. The global goat hide market had a CAGR of 2% from 2000 to 2015, beating overall market growth of 1% over the same period. As



Leather is the durable and flexible end product of raw animal hide and skin. Due to its high tensile strength and resistance to tear and puncture, it is commonly used in footwear, apparel and accessories, car interiors and furniture. Raw hides from cattle and buffalo dominate 67% of the supply market, followed by sheep, pig, and goat hides.

The GVC for leather comprises four major categories: producers, tanneries, manufacturers, and retailers. In 2018, the global market for production of raw leather was approximately 7 million tons. Between 2000 and 2015, the production volume in tons grew by 1% per year, with

China, the United States, and Brazil the biggest producers. They made up 35% of all raw production output in 2015.

Tanning occurs mainly in Asia, where more than 57% of global tanneries are based. No fewer than 41% of the world's tanneries are based in China and India. The tanning market was worth about USD 30 billion in 2018. Regarding retail, the global leather goods market was valued at USD 350 billion in the same year. The leather market is expected to grow at 6% per year between 2018 and 2030.

sheep and goat hide is softer and more flexible than bovine hide, IsDB member countries could position themselves as key suppliers for leather bags and accessories, which is the fastest-growing segment of the overall leather goods market. In 2018, this sector was estimated at USD 60 billion, demonstrating a CAGR of 6% from 2016 through 2021.

When it comes to leather tanning, IsDB member countries have a global market share of only 10%. To improve this, they could increase transparency and create sustainable, high-quality labels, which boost trust and pave

the way for foreign investment. Where viable, IsDB member countries should also establish the necessary processing infrastructure, including treatment plants, and incentivize manufacturers through joint ventures, guarantees, or development programs.

# MAN-MADE FIBERS

- Asian IsDB member countries are likely to benefit from an ongoing production shift of labor-intensive secondary processing away from China
- Indonesia is the largest IsDB producer of man-made fibers with a global share of 3%, followed by Turkey with 2%
- Government intervention is required to develop local supplier infrastructure in IsDB member countries further

## 2030 AND BEYOND – HIGH-TECH PRODUCTION FOR INNOVATIVE PRODUCTS

The smart textiles market is expanding rapidly: From 2012 to 2017, revenue more than doubled from USD 700 million to USD 1.8 billion. Smart textiles also include the growing sector of textile-based electronic and sensory technologies. An increasing range of functional requirements calls for greater investment in research and product development. Market participants expect major MMF producers to increase automation to reduce production costs. Further development of staple manufacturing technologies, in which fibers are pressed together instead of yarned, as well as new zero-waste technologies that print shapes directly out of material to avoid offcuts, are also likely to increase efficiency.

Several other new techniques and technologies are expected to not only improve efficiency but also reduce costs and improve sustainability. These include reintroducing recycled synthetics or cellulosics as raw materials into the production cycle, as well as developing cleaner production technologies and ways to reduce emissions, waste, resource use, and geographical distances. Brands, retailers,

and consumers increasingly favor MMF over natural raw materials due to lower prices and superior functionality features.

## CHALLENGES – FLUCTUATION OF RAW MATERIAL PRICES AND ENVIRONMENTAL PROTECTION

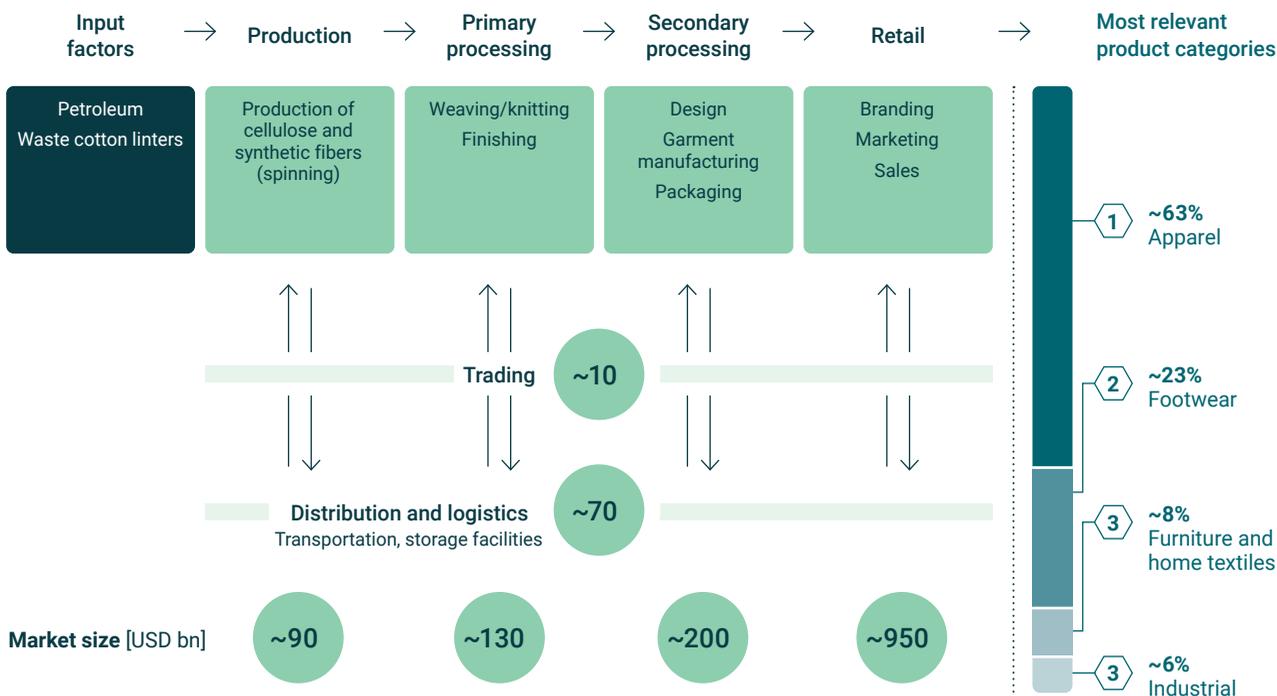
Despite having a cost advantage over natural fibers, the global synthetics market faces challenges from fluctuations in raw material prices due to its dependency on oil as an input resource.

Consumers are increasingly demanding products that are both sustainable and functional. This poses a risk for synthetic fibers, which can result in pollution from plastics used in production. To solve this issue, countries and regions have already implemented several plastic-reduction schemes like the European Union's Single-Use Plastics Directive, and the California Circular Economy and Plastics Pollution Reduction Act.

The availability of more sustainable cellulosic fibers is currently limited due to low levels of production (6 million tons) compared to synthetics. Their growth is hampered by competition for land, with some governments issuing regulations to prevent damage to forests.

## POSITION OF ISDB MEMBER COUNTRIES – INFRASTRUCTURE INVESTMENT COULD PAY OFF

IsDB member countries produced 5 million tons of MMF in 2018, with Indonesia and Turkey making the largest contribution. This represented 7% of global production. For synthetics, Indonesia, Turkey, Pakistan, Malaysia, and Iran account for 96% of IsDB production. Indonesia is the only major IsDB cellulose producer and has a global market share of 8%. But cellulose, especially viscose (rayon), are gaining importance as a sustainable alternative to



Man-made fibers (MMF), which are made artificially rather than occurring naturally, are divided into two main types: petroleum-based, inorganic synthetics such as polyester or acrylic, and organic cellulosics like viscose or modal, based on wood pulp and cotton linters. While cellulosics boast greater sustainability, synthetics possess superior performance characteristics in areas like strength and elasticity compared to many other materials. This is important for the growth segment of smart textiles, which are becoming increasingly popular in high-tech sectors like healthcare, beauty, athletics, and emergency services.

The global market comprised 75 million tons in 2018, with synthetics making up 91%. Polyester is the most-produced synthetic fiber with an 82% share, while viscose is the most-produced cellulosic with a share of 76%. In terms of market value for man-made fibers, 63% can be attributed to apparel, 23% to footwear, 8% to home textiles and 6% to industrial usage. The global man-made fibers market was valued at USD 90 billion in 2018 with an expected growth rate of 4% per year from 2018 through 2030.

For both synthetics and cellulosics, China dominates production with a market share of 67% and 65% respectively. IsDB member countries Indonesia and Turkey also rank among the most important players.

petroleum-based synthetics. One leading company with a sustainable approach in this field is Indonesia's Asia Pacific Rayon, which exports its products to IsDB member countries such as Bangladesh, Pakistan, and Turkey.

Asian IsDB member countries that combine high amounts of labor resources with lower labor costs will further benefit from labor-intensive secondary processing industries moving out of China. However, China is expected

to remain the key producer of MMF. Nevertheless, Asian IsDB member countries in particular could benefit from attracting direct investments from international sourcing companies as well as investing in local capacity to establish a local supplier infrastructure for MMF. Lastly, local supplier structures could foster production for the domestic market and reduce dependency on international exports.



**Embroidery machine with colorful  
yarns at a clothing factory**

Several ISDB member countries are well positioned in both primary and secondary processing of textiles and apparel



# 3

## HOW READY ARE ISDB COUNTRIES FOR THE FUTURE?



## **No “one-size-fits-all” approach can be applied to IsDB members countries**

Three heterogeneous country clusters with similar market characteristics were formed in order to conduct future-readiness assessments and derive recommended actions

## **Established players need to focus on innovation and consistent implementation of SDGs**

Established market champions are highly competitive and well integrated in global export markets but still need to focus on innovative production techniques and achieving SDGs to defend their positions

## **Emerging industry players need improved infrastructure and more financing options**

Emerging stars have established production operations but display difficulties in capturing their full export potential. They should focus on better infrastructure and access to financing to unlock further export potential

## **Attracting investment can boost new market entrants**

Promising potentials still need to establish their position in GVCs. They can gain strength by directing more foreign direct investment into manufacturing capabilities and increasing their industrialization levels

## **Concerted action will make IsDB members fit for the future**

Severe environmental and social consequences, among other things, are expected if IsDB do not address the current challenges. Failure to act will threaten the long-term competitiveness of the textiles and apparel sector

# 3.1

## STARTING POINTS FOR IsDB COUNTRIES

*Three main clusters with similar market characteristics*



### Established market champions

People's Republic of Bangladesh  
Republic of Turkey



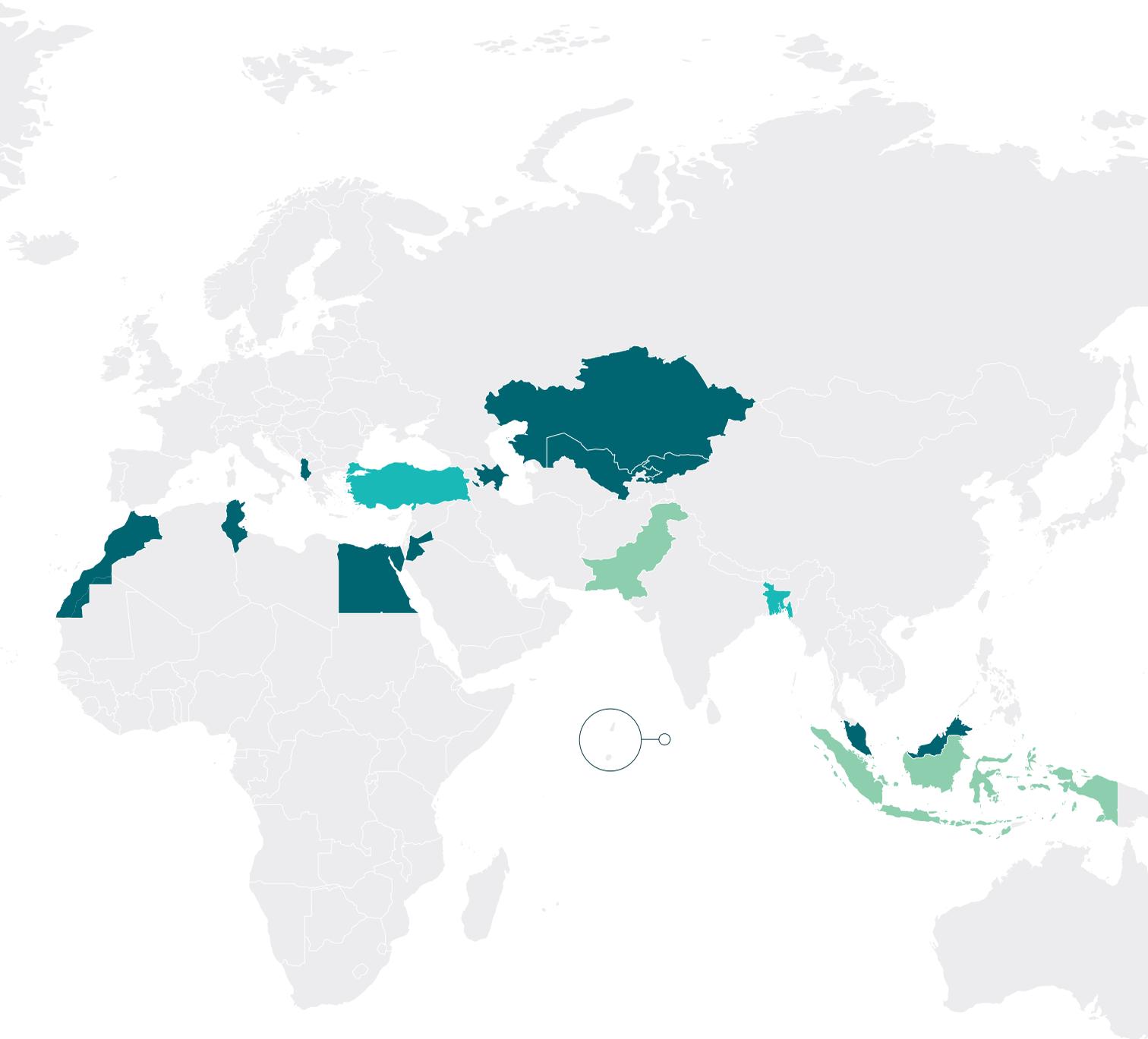
### Emerging stars

Republic of Indonesia  
Islamic Republic of Pakistan



### Promising potentials

Arab Republic of Egypt  
Kingdom of Morocco  
Republic of Tunisia  
Republic of Azerbaijan  
Republic of Kazakhstan  
Kyrgyz Republic  
Malaysia  
Republic of Uzbekistan  
Republic of Albania  
Jordan



# 3.1

## STARTING POINTS FOR ISDB COUNTRIES

### Access to raw material and export activities and export growth as cluster criteria

Following on from the analysis of the global textiles and apparel industry in 2030 and beyond, as well as opportunities for IsDB member countries, a readiness assessment to look at a variety of factors for IsDB members. The next chapter takes a broader perspective, looking at access to finance, sector competitiveness, sector capabilities, and framework conditions. Outcomes from the global industry analysis are also considered.

Each member country has its own individual natural resources, industrial strengths, and areas of expertise. Yet they do share similarities, and these are key to revealing their potential. To better understand the strengths and

opportunities of IsDB member countries and to better customize future action plans, the 57 members are evaluated and grouped into clusters.

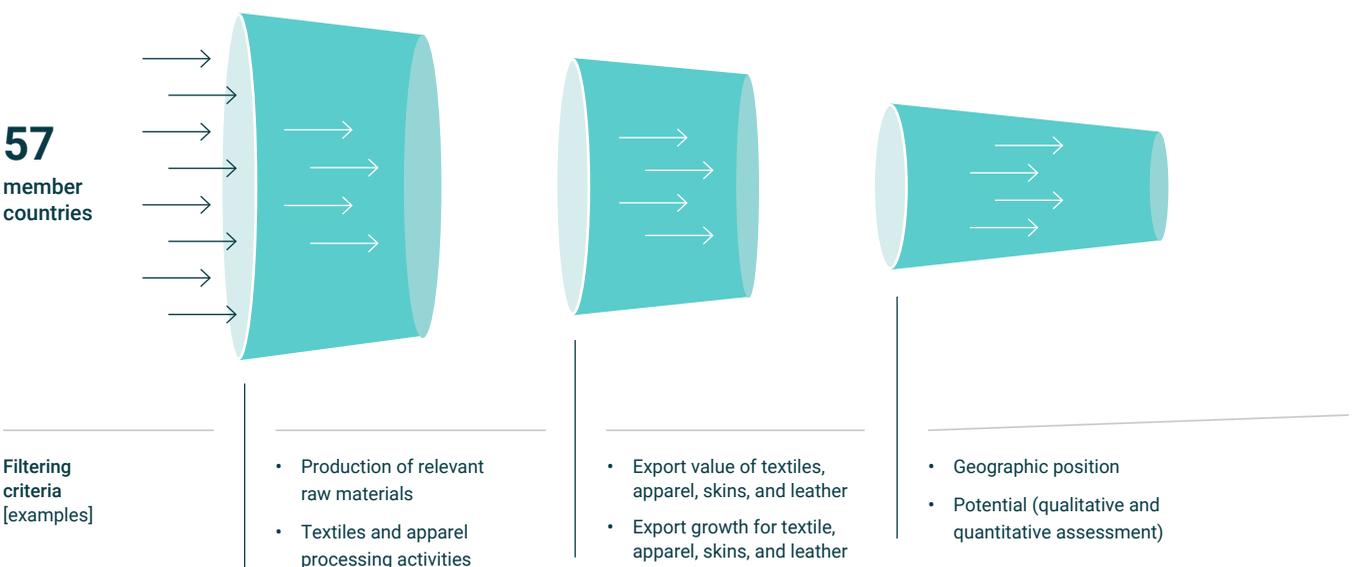
#### EVALUATION AND CLUSTERING

The clustering process was based on the relevance and maturity of the textiles and apparel industry for each country.

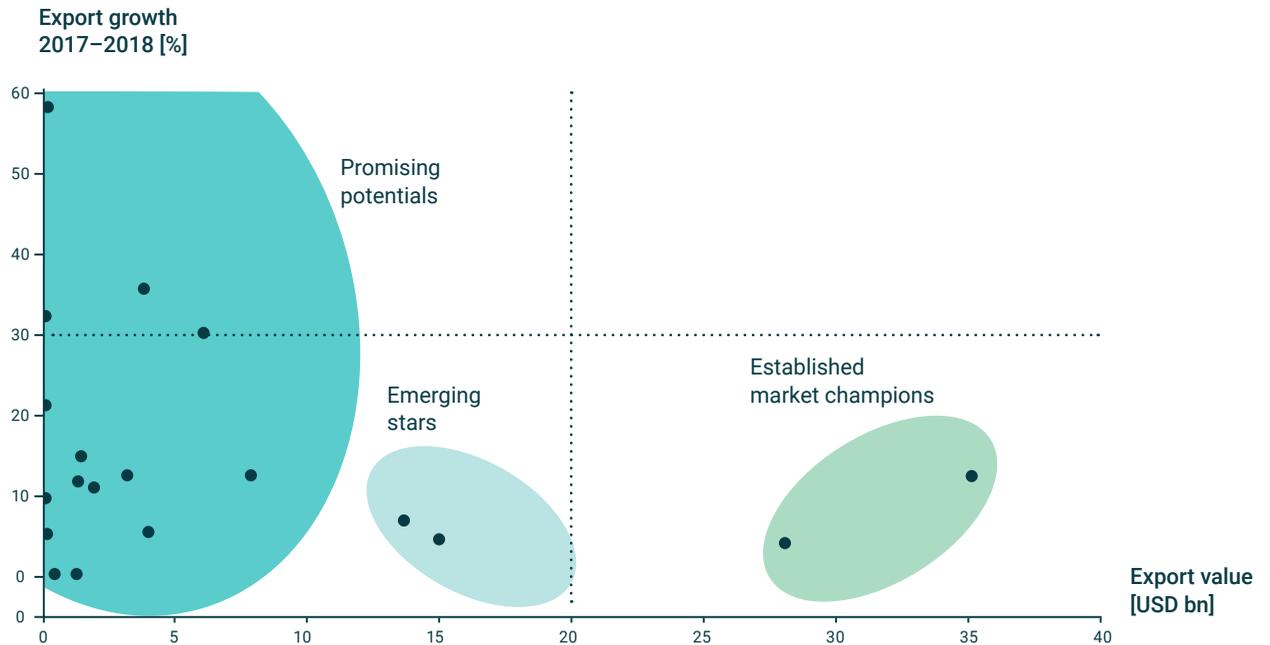
**Raw material occurrence** and **export activities** served as the main assessment criteria – two highly relevant factors in the status of a country within the industry.

The existence of raw materials like cotton or wool is usually the starting point when entering the GVC for textiles

### Process and prioritization criteria for IsDB member countries



## Three different clusters of IsDB countries



and apparel. It typically enables vertical integration in the added-value stage of spinning an untreated fiber into a thread.

The industry is very export oriented, with trade volumes representing the key indicator of its development status and strength. This is especially true for IsDB member countries, as their domestic markets are small compared to import-led regions such as the United States and Europe. As a result, the analysis used **export values** (in USD million) and **growth export figures** (2017 to 2018) to develop clusters.

### THE RESULTS

The process identified **three relevant clusters**.

**Established market champions** are dominant players, which each account for 20% of the IsDB export value in textiles, apparel, skins, and leather products. Bangladesh, for example, ranks number one among IsDB member countries in terms of textiles and apparel export value and is constantly increasing its competencies to produce more complex product categories. Turkey follows as the number two in export value and has established itself as a creative hub for fashion.

**Emerging stars** hold a share of 10% of the IsDB export value in textiles, apparel, skins, and leather products and harbor strong ambitions for growth. Pakistan accounts for about USD 15 billion in export volume and grew by 4% from 2017 to 2018. The country is an important player in the industry due to its full coverage of the GVC including raw materials – especially cotton – as well as primary and secondary processing.

New market entrants starting from a small baseline are included under **Promising potentials**.

Uzbekistan and Egypt, for example, both had double-digit export growth rates from 2017–2018 at an export volume of less than USD 5 billion.

# 3.1

## RECOMMENDATIONS

### ESTABLISHED MARKET CHAMPIONS

<b>SECTOR COMPETITIVENESS</b>		<b>Promote partnerships and consolidation</b> <ul style="list-style-type: none"><li>• Engage in strategic partnerships among top-tier manufacturers and established retailers to become the single point of contact for all steps in the value chain, increasing competitiveness and value creation</li><li>• Support horizontal consolidation within the industry to drive efficiency and bargaining power against suppliers</li></ul>
<b>SECTOR CAPABILITIES</b>		<b>Swiftly adopt technology</b> <ul style="list-style-type: none"><li>• Become the industry forerunner in the adoption of suitable state-of-the-art technology, such as digital sampling software and automated cutting</li><li>• Support tech startups in the textiles and apparel sector to foster the generation of new, technology-based business models</li></ul> <b>Build technical know-how and skills</b> <ul style="list-style-type: none"><li>• Launch training programs for employees to ensure their qualification in line with technological advancements and secure jobs despite increased automation</li><li>• Tap into external technological know-how by hiring technology-driven industry experts from abroad</li><li>• Ensure technology-related education from a young age (e.g. IT education in schools and universities)</li></ul>
<b>FRAMEWORK CONDITIONS</b>		<b>Become a sustainability role model</b> <ul style="list-style-type: none"><li>• Identify the most critical areas to improve environmental and social sustainability in cooperation with local associations and NGOs</li><li>• Formulate a 10-year action plan with quantitative monitoring and clear assignment of responsibilities</li><li>• Increase competitiveness in a world calling out for sustainability by enabling traceability of garments and leverage digital capabilities to ensure information transfer between producers and manufacturers</li></ul>
<b>ACCESS TO FINANCE</b>		<b>Become an attractive target for FDI</b> <ul style="list-style-type: none"><li>• Facilitate capital inflow (e.g. with investor-friendly regulation and taxation) to invest in research and technology capabilities as well as technologies</li></ul>

## EMERGING STARS

### Increase diversification

- Look into extending the raw materials production portfolio to offer greater input variety for sourcers and enhance market share
- Offer an attractive range of product categories for the industry, while establishing a leading position in one category that catches international sourcers' attention

### Modernize the mechanical backbone

- Modernize outdated machinery and factories to increase the efficiency and quality of fabrics produced
- Consolidate smaller manufacturers to fund investments and increase industrialization levels
- Implement technologies to manufacture products in areas where the country is particularly strong

### Improve infrastructure

- Invest in the enhancement of infrastructure to attract international investors and brands which pay close attention to these capabilities when doing business
- Start by focusing on adequate transportation networks and energy supply

### Implement best practices and certifications

- Incorporate certification and industry norms to ensure fulfillment of compliance standards (social and environmental sustainability)
- Foster industry-specific university and training programs to enhance industry workforce qualification

### Improve access to finance

- Implement favorable loan schemes/micro-loans
- Increase visibility of the country's capabilities and competitiveness to attract FDI

## PROMISING POTENTIALS

### Integrate upstream processing

- Increase added value by further processing raw materials and identify a product niche to create a global competitive advantage
- Push the industry toward products with high added value, for example by establishing production organic cotton production

### Build capacity and ensure supply continuity

- Further expand textile production capacity, engaging in larger, vertically integrated networks
- Ensure continuous flow of materials between the different value creation steps

### Ensure fast lead times

- Develop logistics infrastructure, such as seaports and airports, roads, and railway connections to key sales markets to enhance lead time competitiveness
- Establish a digital backbone and fast internet connections to enhance information flow

### Use textiles and apparel as a starter industry

- Unleash long-term economic growth and industrialization by concentrating on beneficial measures for the sector
- Facilitate trade and accelerate economic development by establishing dedicated export processing zones for textiles and apparel; concentrate on reducing tariffs for these zones in initial free trade negotiations

### Attract foreign direct investments

- Gain access to finance and expertise from foreign partners to develop the industry

## 3.2

### **FUTURE READINESS ASSESSMENT** *Status quo and scenario 2030 per cluster*

**R**ealizing potential in a sector takes considerable effort and dedication. As such, gauging the current state of play within the sector is a good indicator of its likely future success.

With IsDB member countries clustered and prioritized according to their potential in the textiles and apparel industry, the next step is to assess their readiness to compete in global markets. This is achieved through the development of individual readiness assessments.

The first section of this chapter outlines the methodology used, while the second section provides detailed readiness assessments of three example countries, one for each cluster: Turkey (Established market champions), Pakistan (Emerging stars), and Egypt (Promising potentials).

#### **READINESS ASSESSMENT METHODOLOGY**

To assess the readiness of the textiles and apparel industry in prioritized IsDB member countries, each country was rated across four dimensions comprising a total of 14 indicators. These markers are designed to assess a country's degree of industrial readiness to integrate into the global industry and compete on the open market. They are based on development criteria from, for example, the UN and World Bank, as well as expert opinion. Combined, the dimensions and indicators provide a holistic view of the status quo of a country's textiles and apparel sector and highlight where specific actions are required to advance this position.

The red, orange, yellow, and green zones indicate the degree of readiness to compete at a global level, with red the lowest. The country's current level for each indicator is displayed as a white line and its potential future position as a black line. Red flashes highlight key areas for action.

#### **DIMENSIONS AND INDICATORS**

**Access to finance:** There are several different types of finance, three of which are used as indicators: concessionary financing, debt, and equity. Grants, typically awarded by donors to develop an industry, are usually the first source of financing. As the industry builds, another finance source is debt, which requires the borrower to take on risk. Finally, private investors may provide equity from outside. Such investments are known as foreign direct investments (FDI).

**Sector competitiveness:** The first indicator, local production capabilities, refers to a country's share and its scope of diversification in raw material production. Following the GVC, primary/secondary manufacturing encompasses how strong the country is in the manufacturing of textiles and apparel goods. Lastly, the retail indicator measures whether local companies sell finished products through own

# Readiness assessment

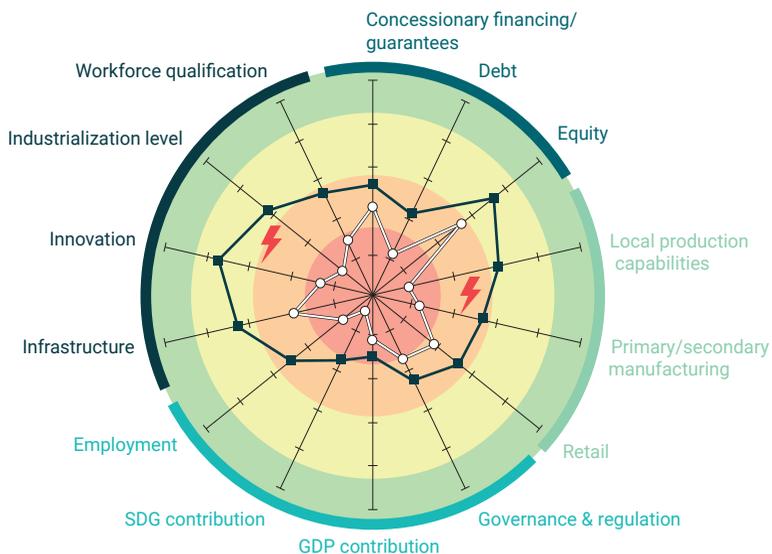
## Assessment dimensions



## Future readiness assessment

### Sector capabilities

### Access to finance



### Framework conditions

### Sector competitiveness

brands and how successful they are in doing so.

**Sector capabilities:** Workforce qualification measures education levels and the availability of workers with a skill set suitable for the textiles and apparel sector. Industrialization level refers to the underlying industry structure and represents the degree of professionalism of a country's textiles and apparel sector. Innovation accounts for how far innovative production techniques are institutionalized. Access to required infrastructure covers ease of transportation and basic infrastructure such as electricity supply.

**Framework conditions:** The employment indicator assesses how far the sector contributes to job creation in the country. SDG (sustainable development goals) contribution

encompasses sustainability of resources used and social standard improvements, among others. Governance & regulation measures the quality of the regulatory and political framework that has an impact on the textiles and apparel industry.

## 3.2

# FUTURE READINESS ASSESSMENT – ESTABLISHED MARKET CHAMPION

## Example of Turkey

“Established market champions” are characterized by an established textiles and apparel sector with strong growth ambitions. To remain competitive, they need to become more efficient by investing in state-of-the-art machinery and digitalization, as well as increase consolidation within the industry. They also need to become industry role models by adhering to SDGs. This example looks in detail at the Republic of Turkey as a member of this cluster.

### COUNTRY OVERVIEW

Turkey is a transcontinental country, located in Southwestern Asia and Southeastern Europe. Its population is approximately 82 million, with about a million additional inhabitants added each year. Turkey has a GDP of USD 980 billion, placing it second among IsDB member countries.

As the sixth-largest clothing supplier in the world, Turkey is one of **the key players in the textiles and apparel industry** and an important country for EU nearshoring. In 2017, the textiles and apparel industry accounted for 6.6% of the country’s domestic GDP and 27.8% of the manufacturing workforce. Manufacturing is one of its key industry pillars.

### READINESS ASSESSMENT

Overall, Turkey is an established player within the global textiles and apparel sector, showing solid performance across all indicators in the country assessment. It distinguishes itself from other manufacturing countries in primary/secondary processing through its well-trained workforce, creative and technical design capabilities, and proximity to consumption markets. In the future, integration of the highly fragmented industry and technological innovation will be key to successfully defending its position against competition from Asia.

### ACCESS TO FINANCE

Turkey displays acceptable performance with regard to access to concessionary financing, debt, and foreign direct investments.

Due to the importance of the Turkish textiles and apparel industry, local government supports farmers and producers with **concessionary financing and guarantees**. By way of example, there are low levels of corporate taxation for businesses in this industry. Starting a business takes less than seven days, which creates a business-friendly environment within the sector.

**Loans** are an important pillar in the financing of textiles and apparel manufacturing. The Turkish government has recently introduced loans of up to USD 35,000, with interest rates 2% lower for the textile industry.

In terms of access to **equity**, the average FDI as a percentage of GDP is 1.3%. FDI has been positive but fluctuated between USD 8.6 billion in 2009 and USD 12.9 billion in 2018.

### SECTOR COMPETITIVENESS

Compared to its competitors, such as China and Vietnam, Turkey holds an advantage in primary and secondary production.

For local **production capabilities of raw materials**, Turkey holds a global market share of 4% in cotton and 3% in wool. It has a long history of producing cotton and is among the leaders in organic cotton. Turkey is also active in man-made fiber production, contributing 2% to the global production volume.

Turkey has strengths in the skillful and reliable **primary/secondary manufacturing** of apparel goods. It is one of the leading suppliers of denim and knitted items among IsDB members and the second-largest textile exporter to the

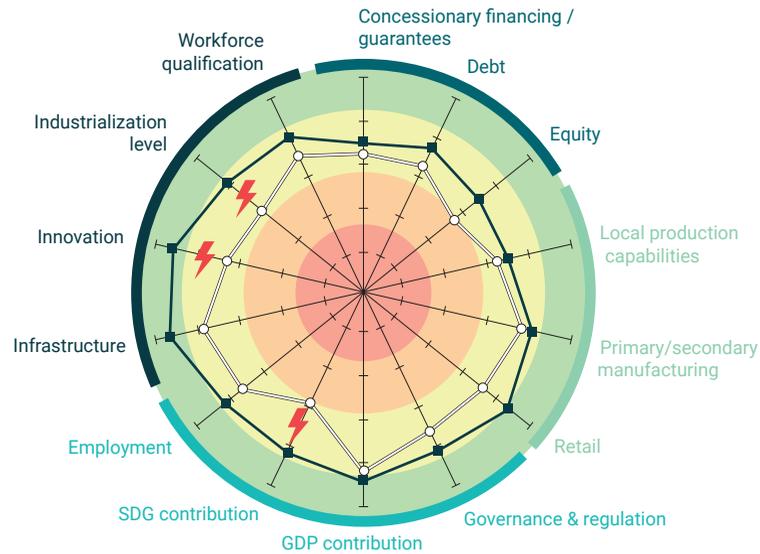
# Readiness assessment, Turkey

## Sector capabilities

Market development programs

Policy recommendations

## Framework conditions



## Access to finance

Financing instrument recommendations

Smart factor strategies

## Sector competitiveness

■ Potential positioning for 2030    ○ Current level    ⚡ Key field of action    ■ Top performance    ■ Acceptable performance    ■ Room for improvement    ■ Critical deficit

EU (after China), where the top three importers of Turkish products are Germany (13%), Spain (10%), and the UK (9%).

When it comes to **retailing**, Turkey performs strongly. Retailers are domestically strong and expanding their international reach. LC Waikiki, for example, a brand for men's, women's, and children's clothing, holds a 17% market share in apparel and footwear specialist retailing in Turkey and operates in 47 countries. Mavi, which began as a manufacturer for leading international brands before evolving into a global brand and retailer, is also a strong performer.

## SECTOR CAPABILITIES

Performance for sector capabilities is good but can be optimized in the next decade. While Turkey has a well-qualified workforce, there is pressure from the Far East to upgrade manufacturing machinery and processes. However, as most of the textiles and apparel companies are SMEs, they often lack the financial means for necessary investments.

Turkey has a strong competitive advantage over other countries with regard to **workforce qualification**. The country has many schools and universities that focus on textiles and apparel. Employees are well qualified and

receive relevant training, enabling them to produce complex samples and delicate, high-quality products. However, this is also reflected in the minimum wage level (USD 340), which is considerably higher than considerable higher than **the minimum wage** (USD 95) in Bangladesh, for example.

The country's level of **industrialization** shows acceptable performance. While Turkey is a leader in exports of textiles and apparel, the industry is highly fragmented, as shown by the fact that the number of employees in approximately 90% of the sector's companies is below 10. Only a few companies have the resources to maintain state-of-the-art production processes.

Competition from China is a catalyst for Turkey to increase **manufacturing innovation**. In 2018, the country invested in new machinery such as plants for spinning, weaving, knitting, and washing/dyeing. However, as Turkey's advantages in market proximity, flexibility, and quality diminish, investment in improved machinery and processes will be necessary.

The quality of the **infrastructure** in Turkey ranked 28th out of 137 countries in 2017 on the Infrastructure Index. Large-scale infrastructure projects, such as the new Istanbul International Airport or the Istanbul Canal, will be carried out between 2017 and 2023, enabling improved delivery times.

## 3.2

# FUTURE READINESS ASSESSMENT – ESTABLISHED MARKET CHAMPION

## Example of Turkey

### FRAMEWORK CONDITIONS

The framework conditions in Turkey support the textiles and apparel industry in its efforts to excel. While its performance on GDP contribution is good, there is still potential to increase gender equality in the workforce.

**Employment** in the textiles and apparel industry ranks acceptably. Being an established player and one of the leading nations in apparel exports, 27.8% of the manufacturing workforce is employed in the textiles and apparel sector.

For its **SDG contribution**, Turkey scored 68.5 out of 100 in 2019. Gender equality offers huge potential for the nation, especially when it comes to differences in unpaid and paid work and the representation of women in the highest corporate bodies. Turkey has implemented changes to increase sustainability, however. In 2017, it introduced Clean Production Plans in 136 textiles and apparel plants to save water and electricity.

The textiles and apparel industry makes a remarkable **GDP contribution** of 6.6% to Turkey's domestic GDP.

In **governance and regulation**, Turkey scores 76.8 out of 100 on the Ease of Doing Business Index thanks to favorable regulations for registration and commencing business as well as trading across borders. Turkey's membership of the European Customs Union is a major advantage as the country is not included in tariffs or quantity restrictions. However, resolving insolvency is a very time-consuming and costly process and the rate of recovery is comparatively low. Political stability remains a concern for the country and its trade partners.

### SCENARIO 2030

Established market champions are expected to consolidate their market position through 2030, enabling further growth

of their respective textiles and apparel industries.

Turkey is no exception. By 2030, infrastructure investments will be in place, allowing it to strengthen its position as one of the leading exporters. It is also assumed that Turkey will implement major **technological advancements** in textile production. This should improve production speed and flexibility to immediately respond to retailer needs, establishing Turkey as a reliable and strategic partner for brands.

In order to fund the required investments, Turkey is expected to increase **consolidation** by merging capabilities and bundling resources of textiles and apparel companies. This will foster knowledge sharing and efficiency within the industry, thus improving its competitiveness.

As a true leader in the sector, Turkey is also likely to increase its **adoption of SDG goals**. On gender and income equality in particular, Turkey can significantly improve its SDG performance and become a role model in sustainable development for the rest of the industry around the globe.

### RECOMMENDED ACTIONS

While Turkey is already an advanced player in the textile industry, there is still room for further advancement to reach the state described in the 2030 scenario.

Firstly, **investing in production technology and innovative processes** is of the utmost importance. This will allow Turkey to keep quality high while providing the country with a labor-cost advantage. Digitalization can also be leveraged. Digital product sampling, for example, could further improve production times and flexibility by enabling instant sharing and adjustments according to clients' needs. Associations in the textiles industry could start and lead this process of innovation by lobbying for government subsidies to finance investment. They could also interact

with technology leaders, such as startups or engineering companies, to obtain insights into global industry trends that could be applied to the manufacturing of textiles and apparel.

Increased **consolidation** could also facilitate investment. As an industry enabler, the IsDB could help companies combine resources to increase innovation. Joining forces between companies will not only make investments more affordable, as they are financed with combined funds, but also increase production efficiency as machine utilization can be increased. An online platform operated by the IsDB could facilitate this process, enabling companies to identify potential partners based on similar specializations and investment requirements. Local industry associations could also enable exchange between manufacturers and facilitate mergers.

When it comes to social, ecological, and political stability, **sustainable improvements** are a must as global fashion brands demand them on behalf of their customers. Gender equality, in particular, is currently underdeveloped as it is mostly women that carry out the low-skilled jobs with low wages in the textiles and apparel industry. Increasing qualification levels for female textile workers will enable them to move up to more attractive jobs. Female talent programs and networking initiatives could be started by Turkish textiles and apparel associations to bridge the gender gap, which may contribute to an improvement in SDG performance.

In order to improve ecological sustainability, a certification of sustainable production and manufacturing methods could be introduced. Such a quality label has already been successfully launched in the past in the form of the TURQUALITY label. It certifies the origin of the apparel and, most importantly, stands for Turkish craftsmanship

and product quality. Turkish apparel manufacturers could leverage a sustainability label in a similar way to underline their superior capabilities and guarantee traceability to international retailers. However, implementing full traceability will require substantial investment. For this, local producers could partner with sustainability-focused NGOs or exhibit at fashion shows overseas to raise funding from investors.

## 3.2

# FUTURE READINESS ASSESSMENT – EMERGING STARS

## Example of Pakistan

“Emerging stars” like Pakistan have a solid textiles and apparel sector but generally face structural difficulties in areas like infrastructure and financing. They also need to concentrate on compliance to ensure social, ecological, and political stability.

### COUNTRY OVERVIEW

Pakistan has 212 million inhabitants, making it the fifth-largest country in the world by population, with a young median age of about 24 years. Its 2018 GDP was USD 310 billion, placing it ninth among IsDB member countries and 41st worldwide.

The **textiles and apparel sector** is key for Pakistan, accounting for 8.5% of GDP, 40% of the workforce, and 59% of exports. It is particularly strong in cotton production: Pakistan is the fourth-largest producer worldwide and has the third-largest spinning mills capacity for cotton processing, accounting for 5% of global spinning capacity. Pakistani textiles and apparel exports rely heavily on cotton, which forms the basis of 95% of exports.

### READINESS ASSESSMENT

Overall, Pakistan has the capabilities and know-how to produce textiles and apparel of high quality. However, it is not yet perceived as a safe, high-quality manufacturing country and lacks certain infrastructure. As a result, global companies tend not to conduct business in Pakistan, as exemplified by the low amount of FDI. Nevertheless, with the necessary production and manufacturing capabilities in place, the country shows great potential for 2030 and beyond.

### ACCESS TO FINANCE

With the exception of several existing grants, access to finance has room for improvement in Pakistan.

When it comes to **concessionary financing**, the Ministry of Textile Industry has set ambitious goals, aiming to facilitate USD 5 billion of investment in technology and machinery, alongside duty-free imports on machinery. The government has also implemented investment matching for SMEs to help them upgrade and develop their businesses. In addition, Pakistan has different associations that support companies along the value chain, such as the All Pakistan Textile Mills Association, which advocates the interests of the country's mills.

**Debt** finance loans are an important way for companies to invest in machinery, although credit allocation in Pakistan is heavily biased with SMEs accounting for less than 10% of all loans awarded. At around 10%, the interest rate of the State Bank of Pakistan is very high, with interest rates at private banks even higher. This results in the country ranking below the global average when it comes to easily accessing loans.

Pakistan could improve its **equity** investments. The total amount of FDI is relatively low at USD 2.4 billion, although the planned China-Pakistan Economic Corridor (CPEC) suggests it could increase. As part of CPEC, China also committed to strengthen ready-made garment, man-made fiber, and textile skills training in Pakistan.

### SECTOR COMPETITIVENESS

Overall, Pakistan shows acceptable performance in sector competitiveness, with a good presence in production, primary/secondary processing stages, and some international retail brands.

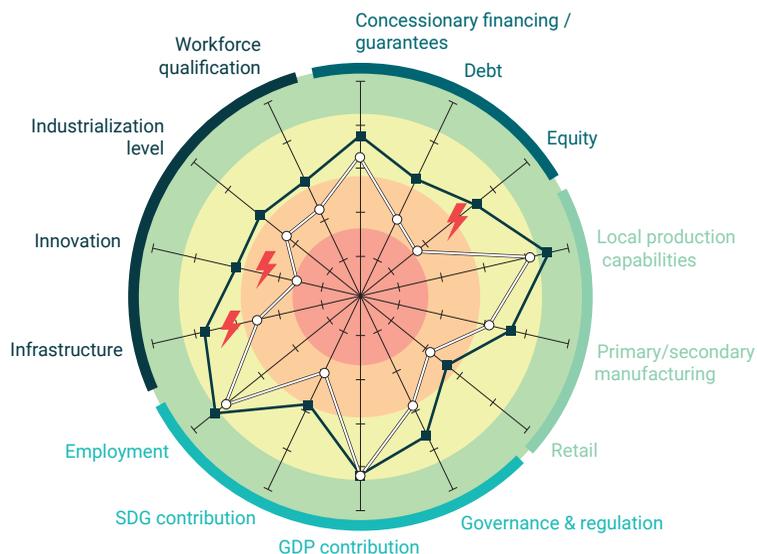
# Readiness assessment, Pakistan

## Sector capabilities

Market development programs

Policy recommendations

## Framework conditions



## Access to finance

Financing instrument recommendations

Smart factor strategies

## Sector competitiveness

■ Potential positioning for 2030 ○ Current level ⚡ Key field of action ■ Top performance ■ Acceptable performance ■ Room for improvement ■ Critical deficit

Pakistan has good **local production capabilities** that are responsible for a variety of materials for textiles and apparel. It is the largest cotton producer among ISDB member countries, accounting for around 2.14 million tons annually. It also produces leather and wool but has a very limited share in man-made fiber production.

Its **primary/secondary manufacturing competitiveness** is influenced by the country's perception. Globally, only 2% of apparel exports are from Pakistan. The country can increase its exports by broadening the focus from cotton products to include other raw materials. Man-made fibers are subject to higher import tariffs than cotton and, therefore, are only imported and processed in limited amounts.

Pakistan's main export products are trousers, sweaters, and knitted shirts, which together account for more than 70% of apparel exports. Trousers and hosiery are the only two product categories in which Pakistan's exports exceed 3% of the global market share. Yarn and woven fabric account for approximately 4% of overall global exports. Looking forward, Pakistan is expected to benefit from outsourcing from China. Pakistan's textiles and apparel industry captures a solid 25% of added value.

International **retail** brands, such as Khaadi and Élan,

do exist, but most Pakistani companies in the textiles and apparel industry focus on the domestic market. The largest companies sell almost exclusively to foreign buyers and do not promote their products under their own brand names.

## SECTOR CAPABILITIES

The sector capabilities of Pakistan's textiles and apparel industry still need support to develop further.

Pakistan performs moderately well in terms of **workforce qualification**, ranking 152nd of 189 in the UN Education Index. When it comes to specific textiles and apparel education, however, it has made efforts to educate its workforce via industry-specific universities such as the Pakistan Institute of Fashion and Design, which collaborates with international fashion schools. The Ministry of Textile Industry has also established technical training institutions to train its workforce.

On an **industrialization level**, around 10% of companies account for 90% of all textiles and apparel exports. Many of Pakistan's textile mills are still working in the informal sector.

**Innovation** in Pakistan's textiles and apparel industry is low and the average textile manufacturing company in Pakistan currently uses technology from the 1990s. More

## 3.2

# FUTURE READINESS ASSESSMENT – EMERGING STARS

## Example of Pakistan

research and development are required in the cotton sector as well as upgrades for manufacturing facilities.

In terms of **infrastructure**, Pakistan ranks 82nd according to the 2017 Infrastructure Index, showing room for improvement. Its energy supply suffers from high prices, putting a significant cost burden on textile products. However, the country has laid the foundations for major infrastructure development projects such as the China-Pakistan Economic Corridor.

### FRAMEWORK CONDITIONS

With the exception of Pakistan's SDG contribution, framework conditions are mostly acceptable. It ranks slightly above the IsDB member countries' average with a score of 61 on the Ease of Doing Business Index.

3.6 million workers are already **employed** in the country's textiles and apparel industry, accounting for 40% of the industrial workforce. Still, there is potential for further job creation as women are underrepresented in apparel production.

Pakistan's **SDG contribution** is below the IsDB member countries' average, with a score of 55.6 in the 2019 SDG index. However, it is working on several initiatives to improve its sustainability, such as InoCottonGROW that started in 2017. Several Pakistani companies, universities, and associations are part of these initiatives that advocate efficient water usage during textiles and apparel processing.

When it comes to **GDP contribution**, the textiles and apparel industry contributes 8.5% to the overall GDP and accounts for 57% of exports, highlighting the importance of the industry for Pakistan's economy.

Pakistan has some room for improvement in **governance and regulation**. Despite enhancing regulatory conditions in recent years, international companies still do not perceive

Pakistan as favorably as comparable textiles and apparel producing countries. Pakistan has some favorable trade agreements, including Generalized Scheme of Preferences Plus (GSP+) status, which was granted by the EU in 2014 and affords duty-free access to European markets. The country's textiles and apparel sector is expected to benefit greatly from phase two of the China-Pakistan Free Trade Agreement, which came into effect in 2020 and eliminates duties on textile products from Pakistan.

### SCENARIO 2030

In 2030, emerging stars are expected to be key players in the textiles and apparel industry. They will produce a wide variety of raw materials and processed textiles and apparel to compete on the global market.

Pakistan is expected to have built up a **strong image** as a stable, reliable, and competitive production and processing country within the global industry. It will have improved the perception of its social, ecological, and political stability and is also expected to have successfully taken over production volumes from China to serve the Asian and Middle Eastern sales markets.

The country's **access to finance** is predicted to improve. It will attract significant FDI and provide favorable investment opportunities in **modern technology and machinery**. In addition, Pakistan's Ministry of Textile Industry will also announce a **diversification** of the country's raw material production portfolio to include man-made fibers alongside cotton. Despite being a specialist in producing trousers, Pakistan is likely to diversify its final product categories, using different raw materials as well as blends.

It is assumed that Pakistan will invest heavily in **infrastructure**. Energy prices are likely to decline as the country reduces inefficiencies and adjusts its electrical

tariffs, creating a comparable price level to competing countries.

### **RECOMMENDED ACTIONS**

Pakistan has a solid base from which to realize the 2030 scenario. However, it must improve access to finance to modernize technology and invest in infrastructure to build a strong image as a leading production and processing country.

To **improve access** to finance and attract FDI, Pakistan must create an appealing environment underpinned by a clear regulatory framework. At the same time, it could introduce instruments for financing, such as favorable loan schemes with extended payback times or micro credits, to create attractive options for smaller companies and startups that want to grow their businesses. The government could also provide subsidies for textiles and apparel manufacturers that want to be part of the country's improvements.

Furthermore, Pakistan needs to **invest in infrastructure** to demonstrate the country's capabilities as an investment location for foreign investors. Pakistan is likely to continue with its efforts in a variety of projects to improve the country's infrastructure. By improving efficiency in its energy sector, the energy supply will become more reliable and energy costs lower, thereby attracting more global companies.

**New machinery and technology** are needed so that Pakistan can modernize production and processing and catch up with competitors such as Vietnam and Cambodia. Companies need to professionalize and standardize their production processes by making use of new machinery and modern technology.

The country should further **diversify** its raw material

usage to include man-made fibers, which will become even more relevant by 2030. To achieve this, Pakistan needs to lower its import tariffs on man-made fibers. Despite becoming a product specialist for trousers and denim, Pakistan should broaden its overall product portfolio as retailers require a broad mix of materials and product categories. Fashion shows and textile trade fairs could help showcase the country as a viable business option for the global market in these new areas.

Pakistan's **framework conditions** can be improved by reducing the underrepresentation of women in the Pakistani textiles and apparel industry and focusing on the actual fulfillment of the sustainable development goals. Pakistan's Ministry of Textile Industry could introduce certification to fulfill compliance standards within the industry. With a sustainable, well-positioned product portfolio, the Ministry could organize fashion shows and trade fairs to attract buyers for international retailers and provide the framework to connect retailers and manufacturers. In doing so, Pakistan can develop a strong **image** in the global textiles and apparel market.

## 3.2

# FUTURE READINESS ASSESSMENT – PROMISING POTENTIALS

## Example of Egypt

“Promising potentials” like Egypt are countries that exhibit strong growth rates in exports but still need to define their position in the GVC. They can improve this by attracting more foreign direct investment to modernize manufacturing capabilities and increase industrialization.

### COUNTRY OVERVIEW

Egypt is a Mediterranean country located in Northeast Africa between Asia and Europe. With 98 million inhabitants, it is the 14th-largest country in the world by population. In 2018, Egypt had a GDP of USD 363 billion, the seventh-highest among IsDB member countries.

Egypt’s **textiles and apparel industry** contributes 3% to its domestic GDP, while employing 5% of the workforce and accounting for 11% of all exports. The country focuses on raw material production and is renowned for its long staple fiber cotton, of which it is the largest producer in Africa. Egypt is also active in leather, where it is the second-largest producer in Africa, as well as in wool. Improvements in textile processing have led to increasing interest from apparel manufacturers thanks to the country’s proximity to and favorable trade agreements with the European Union and the United States.

### READINESS ASSESSMENT

Overall, Egypt performs solidly in terms of infrastructure and access to finance, ensuring it has good potential for 2030. The country could improve further by raising its attractiveness for FDI, strengthening its market position in primary and secondary manufacturing, as well as investing in a higher degree of innovation.

### ACCESS TO FINANCE

Access to finance is on an acceptable level. As the country leaves recent instabilities behind, the textiles market has been gaining trust with Egypt’s financial institutions.

The government is taking an active role in the textiles and apparel sector by providing **concessionary financing**. In 2018, for example, Egypt allocated USD 1.5 billion to modernize the industry in areas like spinning, weaving, knitting, dyeing, finishing, printing, and cut-sew manufacturing.

Textiles and apparel companies can secure **loans** in Egypt mainly through the National Investment Bank, the National Organization for Social Insurance, and the Ministries of Electricity and Petroleum for gas consumption. The inflow of external debt doubled between 2015 and 2018, reaching 40% of the gross national income in 2018.

Government reforms and regulatory changes in the textiles and apparel market encourage foreign **equity** influx. In 2018, the FDI-to-GDP ratio was at a moderate level of 1.9%. With increasing political stability there is strong potential for the Egyptian market to attract higher amounts of FDI in the next decade.

### SECTOR COMPETITIVENESS

Sector competitiveness shows room for improvement. The country is known for its high-quality cotton but needs to further integrate upstream processing stages to keep value-adding activities within the country.

In terms of local **production capabilities**, Egypt is the largest producer of extra-long cotton fiber in Africa, which is used to produce high-quality apparel. In an effort to restore seed purity and cotton quality, the government increasingly took control over the production and distribution of cottonseed, which was previously handled by the private

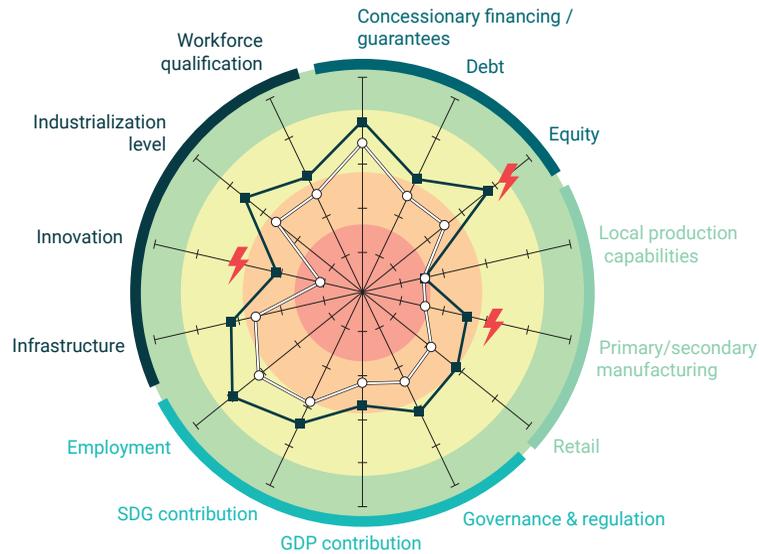
# Readiness assessment, Egypt

## Sector capabilities

Market development programs

Policy recommendations

## Framework conditions



## Access to finance

Financing instrument recommendations

Smart factor strategies

## Sector competitiveness

■ Potential positioning for 2030    ○ Current level    ⚡ Key field of action    ■ Top performance    ■ Acceptable performance    ■ Room for improvement    ■ Critical deficit

sector. Egypt accounts for 6% of leather production capacities among IsDB member countries.

Development of **primary and secondary manufacturing** capabilities is ongoing. There are currently around 1,500 garment factories and more than 1.5 million workers. The added value of textiles and clothing manufacturing has declined over several years, partially due to a combination of political instability, strong competition from Asia, and limited innovation. Thanks to relatively cheap labor costs, Egyptian manufacturers supply apparel to major global brands like Zara, Calvin Klein, and Tommy Hilfiger, although this mainly consists of basic products. In 2018, Egypt accounted for 0.5% of world textiles and clothing exports, which have grown in line with overall exports in recent years.

When it comes to **retailing**, Egypt's fashion revenue is valued at USD 1.4 billion in 2020, ranking 27th globally. Revenues are expected to grow by 17% per year from 2020 to 2024. The largest three brands on the local retail market have their origins in Egypt: Concrete, Carina, and Tid Lamond, accounting for about 8%.

## SECTOR CAPABILITIES

Sector capabilities exhibit acceptable performance across all indicators except innovation, which has potential for improvement.

**Workforce qualification** can be strengthened to stimulate the country's productivity growth. Based on the UN Education Index, Egypt ranks 116th out of 189 countries in 2018. The government aims to train 750,000 workers, supervisors, and managers in the textile industry as part of its plan to modernize the textiles sector.

In terms of **industrialization**, Egypt's textiles sector is dominated by state-owned businesses. The government has announced it will consolidate the market, creating one of the world's largest spinning factories. On the other hand, the apparel and clothing sector is very fragmented, with 90% of factories privately owned.

Egypt shows room for improvement in **innovation**. The government's modernization plan aims to increase technological capabilities in the textiles industry by adding 780,000 new spindles and 1,300 weaving machines.

## 3.2

# FUTURE READINESS ASSESSMENT – PROMISING POTENTIALS

## Example of Egypt

Egypt ranks 73rd of 137 countries on the **infrastructure** quality index. It is an attractive sourcing destination thanks to its comparatively short lead times. With the Suez Canal running through it, the country is well located for international logistics routes and because Egypt connects producers and sales markets, it is an appealing location for upstream processing. The country enjoys low electricity costs, with prices roughly three times less than in China.

### FRAMEWORK CONDITIONS

Egypt's framework conditions indicate room for improvement in government and regulation. Both GDP and SDG contributions are already on an acceptable level. Overall, Egypt ranked 114th of 190 countries in the UN's Ease of Doing Business Index in 2019.

Egypt has a large labor force with a 90% national **employment** level at the end of 2018. The textiles and apparel industry accounts for approximately 5% of the workforce in Egypt. Compared to other countries, the sector's contribution to overall employment is low, leaving room for the industry to grow.

Based on the 2018 **SDG** index, Egypt ranks 99th of 156 countries. In early 2019, the United Nations Industrial Development Organization (UNIDO) launched a pilot for its Better Cotton Initiative in Egypt, which aims to increase product sustainability and enhance labor conditions throughout the value chain. CCPB Egypt offers recycling certification such as Global Recycled Standard (GRS) and Recycled Claim Standard (RCS).

The textiles and clothing sector accounts for approximately 3% of Egypt's **GDP** and around 30% of industrial production. While GDP is expected to grow by about 6% p.a. between 2019 and 2024, apparel and textile production is anticipated to grow at 11% per year in the

same period, increasing its contribution to Egypt's GDP.

Egypt's **government** has negotiated multiple trade agreements that facilitate product exports to, among others, the United States and the European Union. Apparel produced in the Egyptian qualified industrial zones, for example, can be exported customs free to the United States. With sustained political stability, further progress can be expected.

### SCENARIO 2030

For promising potentials, the goal through 2030 should be to find their respective area of competitive advantage within the GVC and to establish themselves as relevant locations for investment. To achieve that, external capital is needed to modernize primary and secondary production capabilities.

Egypt is currently transitioning from a regional player to a global sourcing destination with a strategic geographic position connecting east and west. Forming multiple textiles and apparel cluster zones should enable it to increase its competitiveness and **raise FDI** to make necessary investments. By 2030, the country is likely to have established itself as a global textiles and apparel hub.

With its natural and industrial resources and large, competitive workforce, Egypt is expected to build a **vertically integrated textile value chain**, from raw materials through to retail products. By doing so, it could benefit from estimated untapped export potential of more than USD 10 billion. Actions like the government's textile **modernization** plan that forms part of Egypt's Vision 2025 are likely to provide the necessary drive.

### RECOMMENDED ACTIONS

In summary, the challenge for Egypt will be to capture more of the global textiles and apparel value chain. While Egypt

exhibits substantial potential, it must undertake concerted efforts to reach the level described in the scenario 2030. The Egyptian government has the option of continuing its active role as a regulator. Limiting raw material exports, increasing customs on semi-finished goods, and increasing locally grown raw materials could enable Egypt to **reach a higher degree of vertical integration**. When adding upstream and downstream activities, companies should try to focus on value-adding processes such as printing and finishing in addition to sewing. Egypt could also increase quality requirements to push for market consolidation in the private sector, which would increase global competitiveness and lead to a higher level of industrialization.

Sustaining political stability and gaining the trust of financial institutions is key to **increasing investor confidence** and steering FDI into modernizing the industry. One option could be to promote co-investment between foreign fashion retailers and local raw material producers, primary manufacturers, or regions within Egypt, giving the country access to valuable expertise. As an example of the mutual benefits of co-investment, MAS Holdings – the largest textiles and apparel manufacturer in South Asia – invested more than USD 400 million in Kenya in November 2019, creating around 3,000 new jobs in the country. The investor benefits from a 10-year tax exemption on income generated by the plant, an investment tax deduction allowance, as well as import duty and value-added tax exemptions.

A further measure would be to actively **push the industry toward products with high added value**, for example by establishing Egypt as a location for organic cotton production and sustainable processing. To market its products, Egypt could harness its reputation as a producer of one of the finest types of cotton in the world. It could also

build on its SDG initiative to further increase employment and income along the value chain.

## 3.3

### WHAT HAPPENS IF WE DON'T CHANGE?

The coronavirus pandemic is expected to accelerate the pace of shifts to technological adaptation, need for digitally skilled labor force, and reaching the consumers via e-commerce. In addition to these transformations, global, industry-specific, and technological trends necessitate taking certain actions to adapt. If IsDB Member Countries do not take swift actions to restart and restructure their economies in line with these shifts, the wealth, technological, and productivity gaps with other countries is likely to be widened. This would have unprecedented negative impact on employment and poverty rates with a gloomy prospect for their socio-economic development in the years to come.

#### LOSS OF COMPETITIVENESS IN THE GLOBAL TEXTILES AND APPAREL INDUSTRY

The textiles and apparel industry in IsDB member countries is expected to experience a significant loss in competitiveness if they fail to make any changes. Not investing in new production technologies like automation will result in low productivity, increasing the gap to countries that already have a mature industry and are continuously investing in innovation. Stagnating technological development will lead to disadvantages in terms of efficiency and increased production costs. A lack of investment to improve education will prevent local industry from upgrading workforce skills for more complex production. This would leave the workforce focusing on repetitive manual activities that are being replaced by machines in countries investing in innovation. The gap between available skills and required expertise will continue to grow.

Factors such as a lack of modern infrastructure or unfavorable tariffs will also have a negative impact on international demand. As a result, trading volumes will significantly decrease for countries that do not improve delivery time, quality, and cost. Retailers will shift to

countries with a more advanced industry, meaning developing countries miss out on the potential of additional job creation.

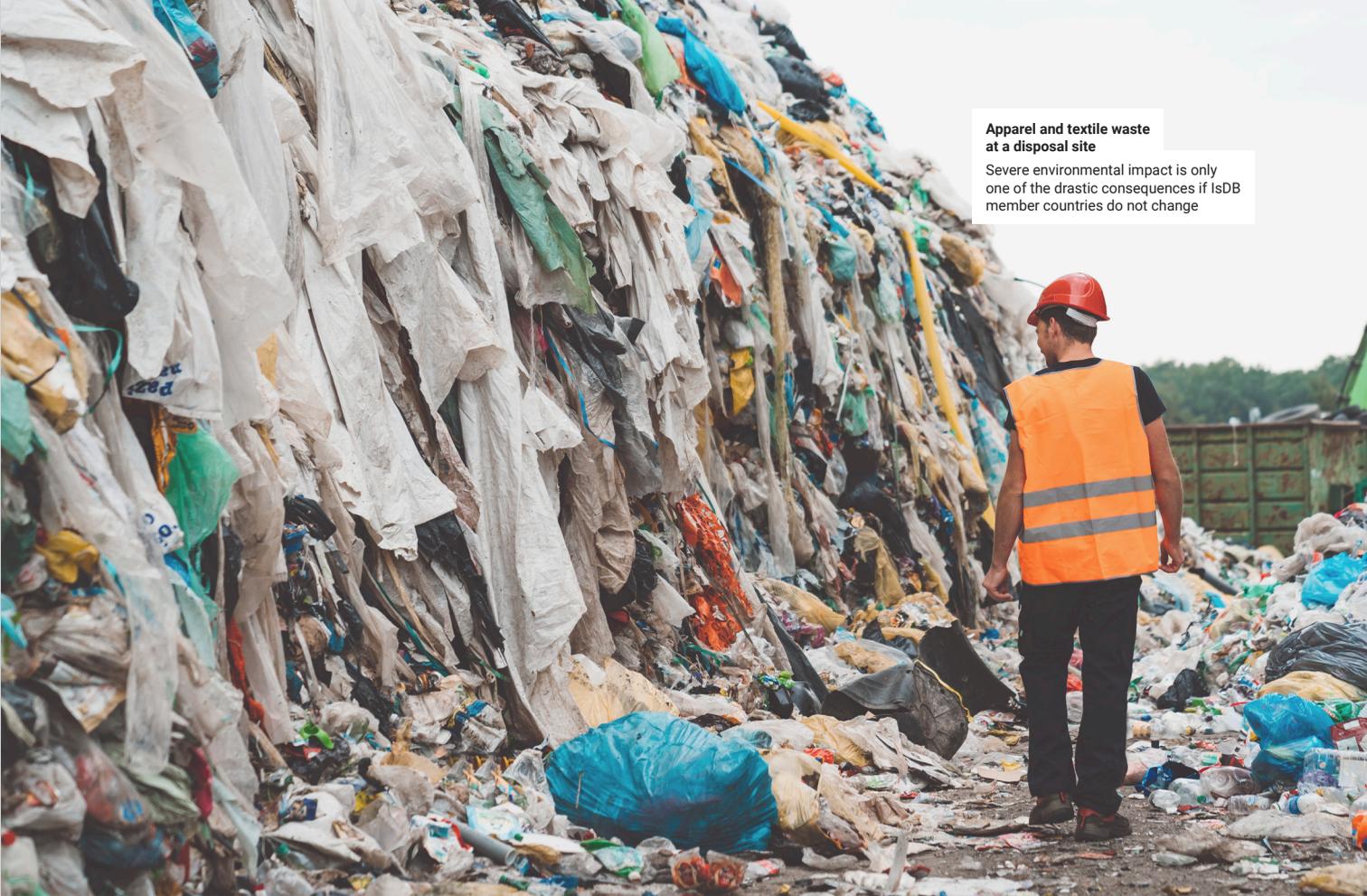
#### LIMITED ECONOMIC GROWTH

The lack of competitiveness will restrict countries to the production of basic products with limited value added. IsDB member countries will not be able to upgrade their value chains and increase the added value of their products by using more complex materials such as man-made fibers. Producers will miss attractive opportunities for additional income through higher-margin products.

Moreover, the decrease in trade with other countries will result in a vicious downward cycle in which production and export levels will decline and with them the income required to develop the domestic industry. This will ultimately lead to limited economic growth and a missed opportunity learn from the textiles and apparel industry which can then be applied to other sectors that support national and economic development and industrialization.

#### INCREASING UNEMPLOYMENT

In many IsDB member countries, the textiles and apparel industry is a major source of employment. Not developing the industry could have a serious impact on current employment rates. With a loss of global competitiveness, firms can be expected to cease operations and lay off employees. This will have a major impact on the economy of the country concerned and lead to long-term unemployment, as many of those workers cannot be easily transferred to other industries due to their low qualifications and the lack of educational programs. Moreover, member countries will miss the opportunity to reduce their already high unemployment rates by expanding an attractive, labor-intensive industry.



**Apparel and textile waste at a disposal site**

Severe environmental impact is only one of the drastic consequences if IsDB member countries do not change

**SEVERE ENVIRONMENTAL AND SOCIAL IMPACT**

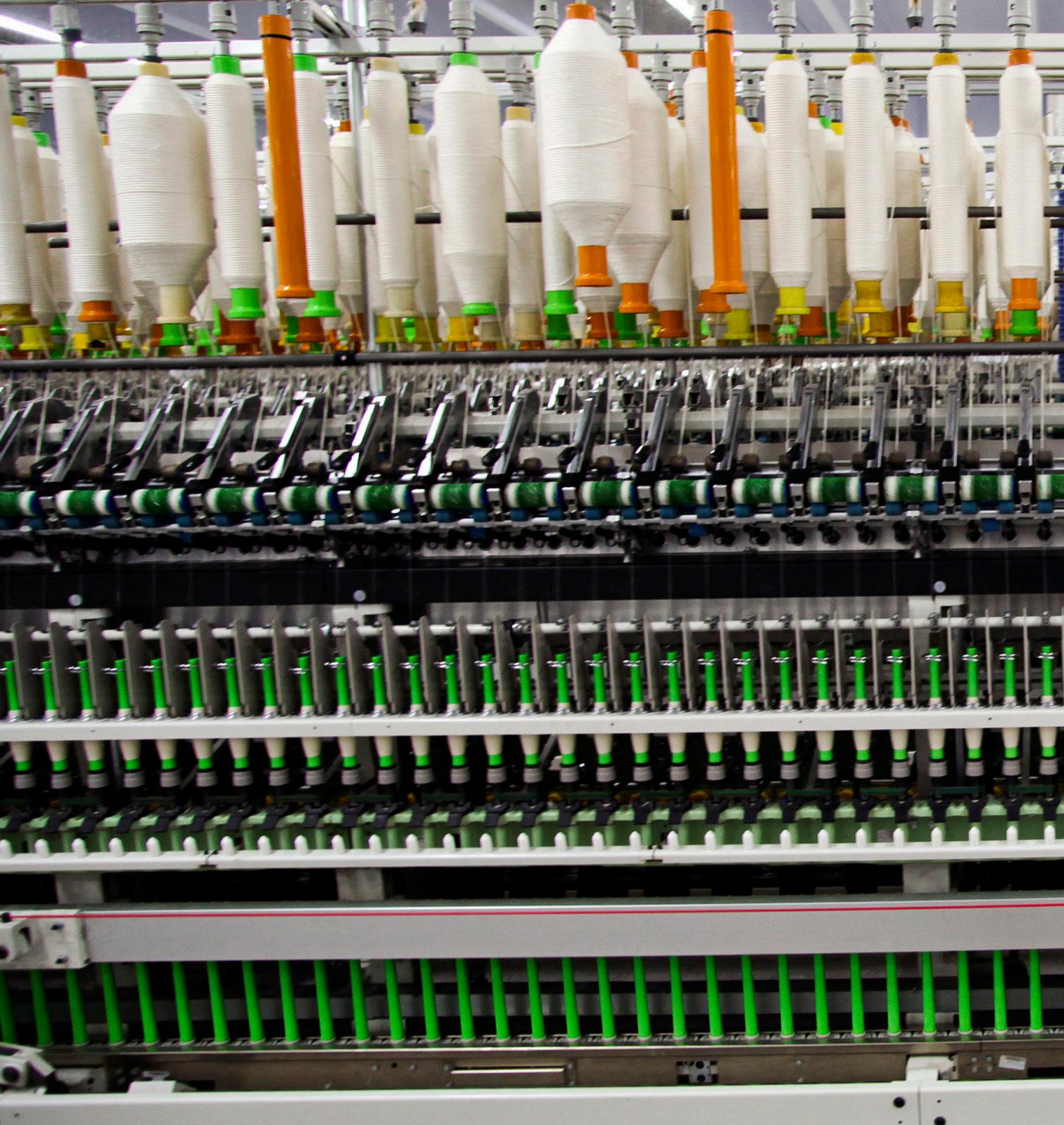
A lack of government policy or enforcement of production standards will result in uncontrolled environmental and social damage. The increased demand for clothing, for instance, will exert growing pressure on water resources if no measures are taken to reduce the amount of fresh water required to produce textiles and apparel. Dyes and chemicals used for finishing will harm the environment, including clean water and soils. A lack of enforcement of working standards may lead to social discontent as well as continuing work-related accidents and health hazards.

**DANGER OF INCREASING POVERTY**

The loss of competition, the limited economic growth, the increasing unemployment and the severe environmental and social impact have the potential to exacerbate the poverty situation in some IsDB member countries. Indeed, the most significant causes of global poverty include poor

access to clean water, lack of jobs, poor education and deficient infrastructure.

If IsDB members are not progressing, they will either lose out to countries that are or miss the opportunity to build a profitable competitive advantage. If countries in the “Established market champions” cluster are resistant to change, opportunities arising from global shifts in demand and supply will be transferred to other neighboring countries. For “Emerging stars”, remaining static may result in a decline of the disposable income required to develop the domestic industry. “Promising potentials” may miss an important opportunity to become involved in an attractive, growing industry that could boost economic prosperity and employment rates.



Worker monitors a ring spinning machine at a J.K. Spinning Mills Ltd. factory in Khurrianwala, Punjab, Pakistan

Many IsDB member countries already offer favorable processing conditions to increase their global footprint in textiles and apparel production



# 4

# HOW TO UNLOCK THE POTENTIAL OF ISDB COUNTRIES



## **Extending activities up- or downstream in the global value chain can deliver additional value**

IsDB countries can strengthen or broaden processing capabilities by engaging in networks with other suppliers or vertically integrating further processing activities. In both cases, state-of-the-art technology and digitization will be key facilitators

## **Creating the right infrastructure is key for the textiles and apparel sector**

As an export-driven industry, textiles and apparel demands extensive infrastructure and seamless logistics to meet required lead times. The heavy investment needed to improve infrastructure requires collaboration between national agencies and international donors

## **Investments in innovative technology and new business models will drive sustainability**

Environmental sustainability is becoming increasingly important for end customers and thus supplier selection for international brands. Investing in new machinery to improve material utilization increases suppliers' revenue and profitability. Recycling and circular economy principles will play a greater role

## **Strengthening standing and visibility as a sourcing destination**

Platforms such as industry associations and fairs for industry marketing could help IsDB countries to make their products and capabilities more visible and attract international sourcing firms

## **The IsDB offers attractive collaboration models for private sector partners**

IsDB countries operate in high-potential textiles and apparel industries. The IsDB offers joint project financing and risk sharing as well as access to high-level decision makers to incentivize collaboration

# 4.1

## KEY FIELDS OF ACTION

### *Strengthening and broadening processing capabilities*

**M**any IsDB member countries have extensive resources of the raw materials required for textiles and apparel. Others show strong performance in apparel manufacturing only. However, only a few cover the full scope of processing activities. By extending their activities downstream, IsDB member countries can derive substantial additional value. To reduce transaction time and costs, leading international brands are increasingly focused on building strategic partnerships with selected, full-fledged suppliers rather than a fragmented variety.

#### **SOLUTION**

Suppliers can strengthen or broaden processing capabilities by engaging in networks with other suppliers to combine raw material production with primary and secondary processing. Producers may also decide to vertically integrate further processing activities by themselves, both upstream and downstream. In both cases, state-of-the-art technology and digitalization will be key facilitators. Further processing capabilities will need to be built, impacting the industrialization and economic development of the country. Major enablers of these changes include collaboration between different suppliers and across IsDB member countries as well as financial support via government subsidies or FDI.

To ensure the effectiveness of investments, IsDB member countries need to fully leverage their competitive advantages. Individual countries should carefully analyze their resources, the level of domestic demand, their competitive advantages, and the total market size in order to determine the most beneficial direction.

#### **BARRIERS AND CONSTRAINTS**

Major capital investments will be needed to upgrade the industry with further processing activities and new machinery. High operating expenditures for new, resource-intensive procedures may also be an obstacle. To tackle this barrier, both government subsidy programs and FDI will be essential. Innovation in machinery may also be key to reducing operating costs in production facilities.

Away from investment, suppliers may be reluctant to become part of a network with others that includes knowledge- and profit-sharing as well as the fear of losing autonomy. Governments will therefore need to set up a communication strategy that clearly conveys the benefits and the necessity of building networks.

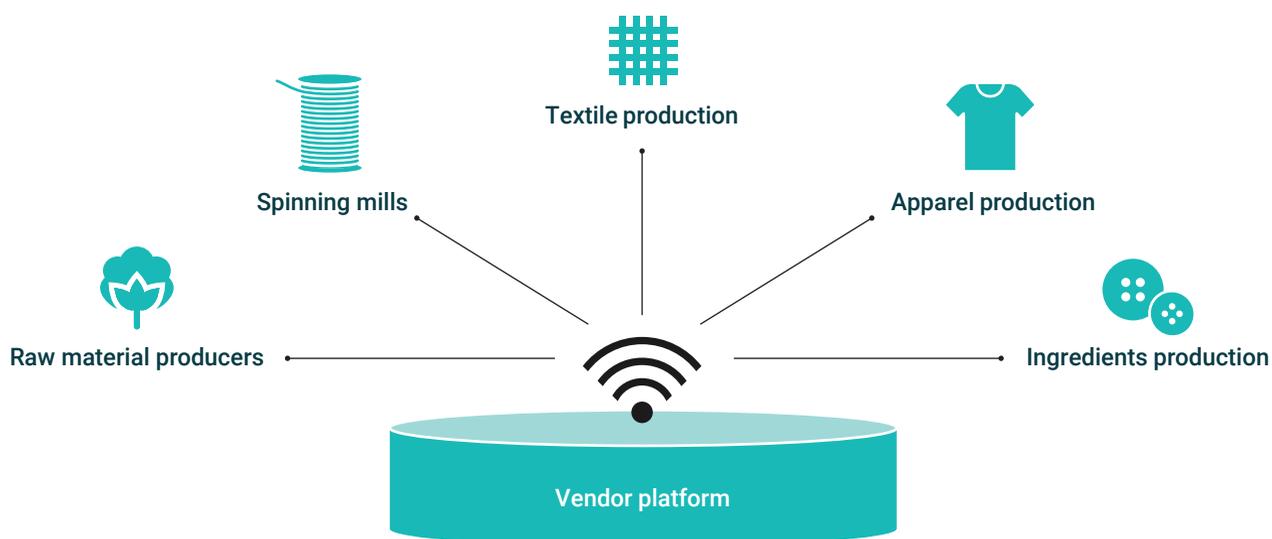
#### **CASE STUDY: BENEFITS OF VERTICAL INTEGRATION IN THAILAND**

The example of the Thai textiles and apparel manufacturer Nan Yang Textile Group shows how vertical integration and strengthening of primary and secondary processing steps can help a company become a leading regional player. Today, it is a major vertically integrated group within Asia, operating almost 20 production facilities in the region that make everything from yarn to apparel products. Its bulk production of items like polo shirts, shorts, and sportswear serves retailers such as Under Armour, Adidas, and Nike. B2B sales of products like uniforms for airlines and banks further diversify the company's customer portfolio.

Founded in 1958, it took around 25 years to fully integrate primary and secondary processing activities via 14 alliances and a number of acquisitions. The result has been significant gains in cost efficiency, speed, service, and exclusivity. In addition to this vertical integration, the company has emphasized the importance of innovation and

## Cloud-based vendor platform

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a national network of production facilities in broadening its processing capacities. Significant capital investments were made to ensure state-of-the-art production technology, such as a power-frame stenter to improve fabric stentering and drying after finishing. The company is also driving innovation in new materials to meet growing environmental awareness and a changing lifestyle for customers. One innovation is the Elitech shirt with advanced breathable characteristics. To incentivize more innovation in the future, the Nan Yang Textile Group has established the Hatch Designer Hub as a co-designing space.

### **OPPORTUNITIES FOR ISDB MEMBER COUNTRIES**

IsDB member countries could drive the vertical integration of their textiles and apparel industry and incentivize local players to either expand their processing capabilities or form networks. Egypt, for instance, could build textile mills next to cotton growing areas to capture further added value in downstream stages. Bangladesh could invest in weaving houses to integrate upstream and reduce lead times in semi-finished goods sourcing. Strategic partnerships with leading international brands can reduce investment risks and may ensure full capacity utilization of newly built manufacturing facilities.

The IsDB can take a key role in strengthening and broadening processing capabilities by creating a cloud platform that facilitates the digitalization of value chains to establish supply networks and control production processes. This platform could offer the transparency increasingly demanded by retailers and serve as a best-practice example of the benefits of networks, supplier consolidation, and professionalization. Based on this technological enabler, governments of IsDB member countries could incentivize small businesses to join networks that cover various primary and secondary processes. In many IsDB member countries a significant part of the industry is still divided between smaller companies in close proximity to each other. These businesses are often subcontractors to larger conglomerates or focused on local demand.

Greater professionalization could contribute to increases in efficiency. In this set-up of networks, the IsDB could act as a guarantor that certain standards are met and accelerate onboarding to international brands. To increase the appeal of expanding processing capabilities, trade in products with a higher value added could also be facilitated. To realize this, governments in IsDB member countries need to reconsider their tariffs and duties policies and drive free-trade agreements with strategic partners.

# 4.1

## KEY FIELDS OF ACTION

### *Bridging the infrastructure gap*

**T**he growing demand for fast fashion has led to shorter product cycles and faster speed to market. This places more pressure on the industry's entire infrastructure, including logistics, power supply, and digital capabilities, as the ability to ensure fast production and delivery times becomes an increasingly important factor.

#### **SOLUTION**

Shorter time to market requires significant investment and advances in infrastructure such as port, road, and rail networks. Implementing special economic zones may be an effective way to reduce customs lead times and costs. Adding more reliable and sustainable sources of power, such as solar panels, will also help close the infrastructure gap in many IsDB member countries. Investing in digital infrastructure like fast internet will be key in reducing the amount of physical logistical movements. For instance, textile samples could be shared using 3D modeling and printing, rather than relying on lengthy shipments.

#### **BARRIERS AND CONSTRAINTS**

The capital intensity of investing in logistical and digital infrastructure is a significant barrier. Domestic government support and FDI will be key enablers. A further challenge may be the length of commitment required for infrastructural projects. It may take up to 15 years, for example, to develop and build a seaport with associated logistics services and transport connections. Digital infrastructure also requires considerable expertise and long-term investment, often coming from third parties outside the country. Partnering with these may be a solution to overcoming gaps in know-how and funding.

#### **CASE STUDY: FOREIGN INFRASTRUCTURAL PROJECTS**

Several infrastructural projects in IsDB member countries aim at improving logistics performance in terms of shorter lead times. For instance, FDI totaling USD 1.6 billion is flowing into the expansion of the Gwadar port in Pakistan and its associated special economic zone. Moreover, foreign investors aim to develop the road infrastructure with new highways from the Chinese border to the Pakistani seashore. From an industry perspective, Pakistan is anticipated to benefit from these projects by improving its logistics performance via reduced lead times. In view of the general trend toward reducing current value chain dependencies, Pakistan has the potential to become a new transit hub for countries in Central Asia.

FDI is also enabling the construction of dedicated industrial parks that reduce lead times because of the proximity of different processing steps as well as new modern digital infrastructure. This is for instance the case for the Mankai Textile Industrial Park in Sadat City in the IsDB member country Egypt. The planned industrial park is strategically located between the capital of Cairo and the port of Alexandria and is expected to become an important hub for the Egyptian textiles and apparel industry. According to current plans, it will attract almost 600 textiles and apparel manufacturers will create around 160,000 jobs. Against this backdrop the Egyptian government fronted the initial investment of USD 37 million to attract further FDI from investors that want to take advantage of the country's favorable geographical location at the crossroads between Africa, Europe and Asia. The industrial park has already been declared a special zone in order to benefit from the duty-free access to the US and additional infrastructural projects aim at improving the connectivity to roads and railways.

The engagement of local and foreign producers in infrastructural projects is key in order to clearly formulate the infrastructural challenges IsDB member countries need to resolve. For instance, EML, a subsidiary of one of the world's leading cotton shirt manufacturers Esquel Group, has been claiming the need to improve infrastructure in Mauritius in order to further develop the island into a transshipment hub for the region with modern ports and roads. The Mauritius government is now further developing its port capacities and is currently conducting a feasibility study to construct a new container terminal. Governments therefore need to actively understand the requirements of (potential) textiles and apparel producers in order to enable the necessary infrastructural projects.

### **OPPORTUNITIES FOR IsDB MEMBER COUNTRIES**

IsDB member countries are expected to significantly expand their respective textiles and apparel industries due to a shift in supply and demand and the increase of fast fashion. This shift will not only lead to a relocation of production facilities, but also affect air and sea freight connections as IsDB member countries seek to improve their accessibility.

One example of how textiles and apparel volumes can impact logistics is the establishment of regular air shipments between the Spanish retailer Zara's central facility in La Coruña and the Middle East and Asia to transport raw materials and (semi-)finished apparel. In addition to established centers in Hong Kong, Shanghai, and Singapore, new sea-freight hubs like the Gwadar port in Pakistan will soon be available to sourcing organizations and logistics. IsDB member countries will therefore need to position themselves accordingly to benefit from this shift.

On the manufacturing side, new infrastructure will facilitate the entry into new product categories by improving

lead times. This is especially relevant for countries that want to move into affordable fast fashion but face high air transportation costs due to limited access to ports.

Besides traditional sea, air, and road freight, IsDB member countries should also consider mixed forms, such as sea-air freight, which can reduce logistics costs. These transport combinations already exist for shipments from Asia via Dubai to Europe, or via various US east coast ports into the rest of the country. For all options, IsDB member countries must reevaluate their logistics access and develop transnational routes. In many cases, infrastructure development is a greenfield investment and therefore an opportunity to develop a competitive solution from scratch. The IsDB could act as a mediator between countries, producers, and other third parties like port operators to support with development funding.

# 4.1

## KEY FIELDS OF ACTION

### *Developing sustainable textiles and apparel production*

**C**orporate social responsibility and the environmental and societal impact of the GVC are gaining significance. Working standards, as well as high levels of waste and pollution, are all issues that need to be addressed.

#### **SOLUTION**

Innovation in technology, materials, and business models will drive more sustainable textiles and apparel production. Examples include new machinery to improve material utilization and materials gained from natural resources such as fruit fibers. Recycling and circular economy principles will gain importance, driven by increased customer demand for sustainable products and by governments aiming to reduce the industry's environmental impact.

Producers will need to invest in new machinery and research and development, potentially expanding collaborations with research institutes, universities, and startups to develop sustainable solutions. The Spanish company Recovertex, for example, is engaged in upcycling textile waste from around the world to produce new cotton fibers of premium quality in an environmentally friendly way. In order to track advancements in sustainability initiatives, a clear set of performance indicators will be required.

#### **BARRIERS AND CONSTRAINTS**

There are four main constraints to greater sustainability in the GVC: lack of funds, limited technical know-how, high costs, and employee mindset. Local governments in developing countries may not be able to provide the required research funding and subsidies for sustainability initiatives. National engineering universities often do not have the technical knowledge to support the development of more sustainable production processes. As a result, suppliers

must rely on FDI or foreign engineering partners to roll out sustainability initiatives. The high cost of machinery, sustainable materials, and related sustainability certification can also be a constraint for producers.

With the production of sustainable products often bound to higher costs, producers and retailers need to evaluate the price sensitivity of their products to understand whether this additional cost should be borne by the product margin or passed on to the customer in the form of a higher sales price. Education, training, and creative monetary incentive programs may help overcome a potential lack of employee awareness for sustainability topics.

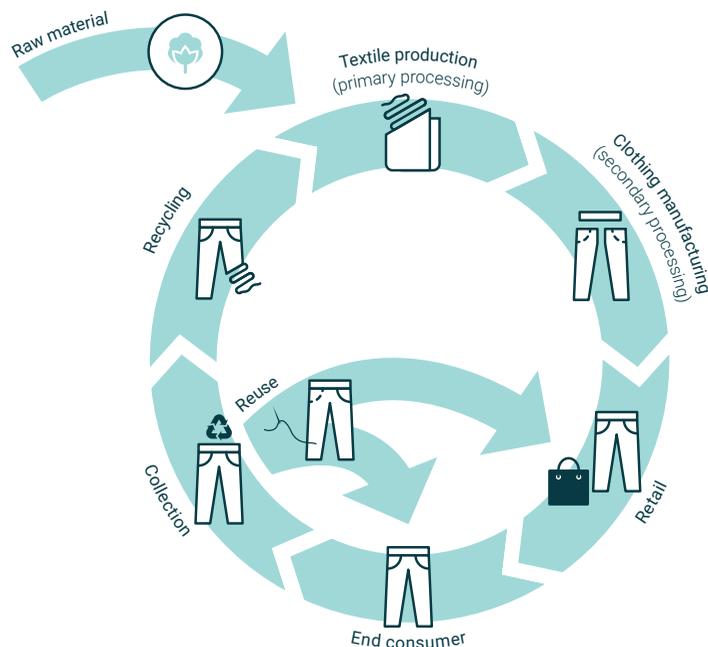
#### **CASE STUDY: SUSTAINABILITY IN BANGLADESH**

Viyellatex is a leading multi-dimensional textile conglomerate in Bangladesh with a highly vertically integrated business unit portfolio that covers much of the value chain, from spinning to ready-made garments. Production is 100% export-focused on apparel for major brands, such as Calvin Klein, Timberland, Tommy Hilfiger, and Puma.

In 2011, Viyellatex was the first company in Bangladesh to join the Global Reporting Initiative for sustainability issues. As a result, it has implemented a variety of best practices around environmental, social, and financial sustainability. The company has installed heat recovery programs to help regenerate energy, while rainwater is collected for use in dyeing and washing, and treated wastewater is used for toilet flushing. Significant investments have been made in energy-efficient machinery, including replacing clutch motors in sewing machines with servo mechanisms that consume less energy.

To help educate employees, Viyellatex introduced a campaign to reduce energy consumption with constant training continuously highlighting the importance of

## Circular economy business model applied to textiles and apparel



environmental initiatives. This is complemented by clearly defined performance indicators and a bonus system that incentivizes the firm's workforce to meet its goals. These goals are integrated with globally recognized standards such as ISO 14001 and the Leadership in Energy and Environmental Design (LEED).

### OPPORTUNITIES FOR ISDB MEMBER COUNTRIES

IsDB member countries will require access to both funds and expertise to make textiles and apparel production more sustainable. Local governments will need to be increasingly sensitized to the topic for them to allocate funds to producers and research institutes. Greater innovation in sustainability will require the establishment of research centers and projects. Small producers in IsDB member countries should also evaluate the synergies that can be attained by acting together in networks.

The IsDB can become an important intermediary between governments, research institutes, and NGOs. One new platform for exchange on sustainability topics could be

an "Islamic Textile Congress", which would bring together various stakeholders to discuss relevant topics and share knowledge between participants to encourage innovation and investment. The IsDB could also lay the groundwork for an internationally recognized quality label that evaluates the sustainability and production efficiency in IsDB member countries. Highlighting the areas of improvement, it could create an incentive for producers to adapt and to reach international certification standards, such as the Organic Cotton initiative and ISO 14001.

Beyond that, governments in IsDB member countries may also look to create attractive incentives for pollution-free production. This could, for example, take the form of a multi-year tax exemption for companies with CSR-friendly production. These incentives could also become relevant for recycling things like used cotton apparel into non-textile products, or plastic bottles into synthetic man-made fibers.

Research funding and knowledge sharing with other countries and stakeholders could be key to reducing the cost, energy intensity, and amount of chemicals required.

## 4.1

### KEY FIELDS OF ACTION

#### *Strengthening the standing of the textiles and apparel industry*

Countries need to strengthen the reputation of their respective textiles and apparel industries while simultaneously making their products more visible to attract international sourcing firms. In the past, non-compliance with CSR standards at certain producers has received extensive media coverage, which has negatively impacted the reputation of the entire industry. Additionally, many IsDB member countries are not well known as sourcing destinations.

To upgrade the industry, both in terms of processes covered and the standard of production technology used, suppliers need to strengthen their image as an attractive sourcing destination and effectively communicate their competitive advantages.

#### **SOLUTION**

Platforms such as industry associations and fairs could help IsDB member countries bolster their standing and visibility within the global textiles and apparel industry. Industry associations should be strengthened to become a key point of contact for international sourcing firms and to drive national and international promotions and industry marketing. Industry associations and governments should also incentivize the creation of domestic brands. E-commerce and social media may be a more cost-effective way to initially build a brand, rather than heavily investing in a physical wholesale and retail network. A precondition for this is a reliable internet network.

#### **BARRIERS AND CONSTRAINTS**

One major challenge is to build international awareness by coordinating nationwide initiatives such as industry marketing campaigns to promote a company's capabilities. Creating a strong industry association that effectively

represents and aligns the interests of various stakeholders is a further barrier that must be overcome. To achieve this, governments could act as an intermediary to unite multiple stakeholders.

A lack of expertise in building and marketing a brand could restrict the creation of strong domestic labels. Emerging brands may take advantage of national industry associations' networks as well as the knowledge transfer facilitated by the international IsDB textiles and apparel platform.

#### **CASE STUDY: TRADE FAIRS TO CONNECT THE WORLD**

The White Label fair in Berlin, which last took place in 2014, was an apparel sourcing fair aimed at creating greater awareness of Asian textile suppliers and their capabilities, including conformance with CSR standards. Organized by the Beijing-based Chinatex Corporation, it was scheduled at the same time as the Berlin Fashion Week to attract major retailers and designers attending Germany's most important fashion show. The majority of the 200 exhibitors were suppliers and producers from Asian countries. Almost 70% were textile suppliers from China, while 20% were of Indian origin.

Some exhibitors were specifically presented as being "Green, Fair & Friendly", having been certified according to environmental and social criteria like the OekoTex Standard 100 or Fair Trade. White Label also set up an online catalogue giving full transparency on the products, capacities, lead times, and certifications of participating exhibitors.

The fair was succeeded by the Asia Apparel Expo, organized by Hong Kong based Comasia Ltd. With more than 400 exhibitors, it is one of the major European textiles and apparel fairs aimed at connecting Asian contract and

private label manufacturers of ready-made garments, textiles, footwear, and accessories with European retailers.

### **OPPORTUNITIES FOR IsDB MEMBER COUNTRIES**

Many IsDB member countries have a great number of small domestic textiles and apparel industry associations. To increase their efficiency and impact, governments and suppliers could drive consolidation of these associations toward a single point of contact for all GVC members, the government, and potential investors. The domestic association should be empowered to facilitate exchanges between suppliers, provide guidance for international sourcing firms, and support innovation from the likes of local universities and startups. Together with IsDB support, industry associations could provide the financial support, contacts, and publicity required to encourage startup creation. Regulatory changes like initial tax exemptions could further incentivize and simplify the creation of new ventures.

The IsDB could also become an important publicity partner for the industry by supporting trade fairs and roadshows in key sales markets. The White Label fair and Asia Apparel Expo show offer examples as to the format such communication strategies could take. A further way of promoting the textiles and apparel industry is to organize business initiation trips for international sourcing firms and brands to IsDB member countries to introduce them to potential producers and explore new business opportunities. Setting up showrooms in certain countries to show international sourcing companies more about the capabilities and designs of local producers may also become an important tool. Governments could help provide venues in good locations at attractive prices.

Beyond promoting processing and production, IsDB member countries could also encourage the establishment of local brands, with government subsidies and IsDB funds providing the necessary financial support. The example of Turkey's Mavi Jeans shows how setting up local brands can strengthen a country's industrial capacity and reputation through expanding its sales to neighboring countries.

Effective marketing strategies are key to establishing local brands alongside major international competitors. This starts by creating brand awareness among target customers and engaging with them via effective storytelling – an increasingly important aspect as customers shift to brands that claim a compelling, profound purpose alongside selling products. Converting an emotional connection into a monetary engagement is crucial. As mentioned above, e-commerce retail and direct marketing may be a cost-efficient way to test ideas. Governments, industry associations, and the IsDB could provide the necessary connections and funds to the likes of media agencies that can strengthen a brand's image from the very start.



**Salesman selecting a fabric swatch to show a customer in Saudi Arabia**

Collaboration with the IsDB can help to build strong partnerships, provide necessary funding, and fully exploit high-potential markets with innovative and sustainable solutions

## 4.2

### **AN INVITATION TO COLLABORATE** *Advantages of working with IsDB*

**T**he Islamic Development Bank equips people with the tools they need to build a sustainable future for themselves, their communities and their countries by putting the infrastructure in place to enable them to reach their full potential. Together with the private sector, IsDB sustainably drives modernization and growth within its member countries.

IsDB member countries include many of the fastest growing economies worldwide. Jointly, IsDB members represent the purchasing power of almost one quarter of the world's population. The combined GDP of IsDB members amounts to roughly USD 7 trillion. With GDP growth rates of up to 8% per year, they have considerable potential to further increase their market share in the global economy.

#### **IsDB ...**

- **builds partnerships**, creating collaborative relationships between communities and nations by bringing together the public and private sector through public-private partnerships and joint project development
- **provides Islamic finance**, granting long-term sustainable and ethical financing structures as the global leader in Islamic finance to underpin project investments by issuing Sukuk (5-year Trust Certificates)
- **fosters innovation and sustainable solutions**, championing science, technology and innovation led solutions to meet the UN Sustainable Development Goals by boosting skills, sourcing ideas and transforming visions into real solutions through two main vehicles: the Engage Platform and the Transform Fund
- **develops high-potential markets**, investing in training, skill building and research and development so that member countries can generate and retain greater economic prosperity at home, raising the quality of their products and further integrating their value chains

#### **IsDB INVITES ITS PARTNERS TO COLLABORATE ON FURTHER DEVELOPING THE TEXTILES AND APPAREL SECTOR, ...**

- **providing them with access to IsDB's extensive network** of public and private sector representatives and **high-level decision-makers**
- jointly building up **skills and capacities** within IsDB member countries, granting partners long-term and sustainable **access to promising future markets**
- offering joint **project financing** as well as future **risk-sharing schemes** to mitigate investment-associated risks

## 4.2.2

### **AN INVITATION TO COLLABORATE**

#### *Opportunity examples*

**T**he three identified clusters of IsDB member countries reveal differences in the respective structures, strengths, and limitations of each cluster within the textiles and apparel industry. In light of expected shifts in supply and demand, as well as major technological and sustainability trends, countries need to invest in expertise and competitive production facilities. They should also look for opportunities to collaborate with each other and leverage country-specific skills and resources to drive socioeconomic growth and overcome inherent development barriers.

#### **ADVANTAGES FOR ISDB MEMBER COUNTRIES**

The IsDB comprises 57 members, offering considerable potential for collaboration and knowledge sharing. Countries belonging to the “Promising potentials” cluster, for example, may benefit from the expertise of established IsDB member countries. On the other hand, “Established market champions” may benefit from rapid innovation in countries with a developing industry. These collaborative benefits can help speed up development of the textiles and apparel industry, boosting revenues, job creation, and overall economic growth.

#### **THE ISDB’S ROLE**

The IsDB could become an important intermediary between its members and provide the necessary platforms and means for exchange on key industry trends. Countries can leverage the IsDB’s strengths across several industries.

#### **Cross-border alliance of industry associations**

Collaboration between local industry associations representing key textiles and apparel players could be a beneficial first level of increased collaboration between IsDB member countries. A new cross-border industry association could pool regional interests and act as a more powerful advocate for the textiles and apparel industry in IsDB member countries. The association could engage in industry marketing, for example, to promote the competitive advantages offered by IsDB member countries and highlight them as an attractive sourcing destination.

Collaboration via an association alliance could also improve the efficiency of industry lobbying, helping requests from different IsDB member countries reach a critical mass for local governments to act. This could be crucial to unleashing government support programs and facilitating trade through agreements and favorable tariffs and duties.

Together, the IsDB and cross-border industry association union could become a more effective intermediary between different industry players, enabling strategic, cross-border partnerships. In the interests of shifting sourcing firms toward full-fledged suppliers, for instance, producers could collaborate to expand capacities, capabilities, and supply continuity on a regional basis, in addition to driving vertical integration on a domestic level.

## **Certifying production standards**

By working together, IsDB member countries could create a basis for standardizing production processes and specifications for both working standards and process efficiency. They could then adapt and upgrade their production according to clearly defined standards. This could improve efficiency of production scheduling and enable better resource utilization in times of a growing awareness for compliance with CSR standards. The IsDB could initiate an internationally recognized quality certification for textiles and apparel production in its member countries. This would highlight areas of improvement and represent a first step toward further international certifications, such as ISO 14001.

Proven production standards could also be documented to give full transparency on workforce, technology, and lead time requirements along all processing steps. IsDB member countries could refer to these documents when exploring opportunities to expand into processing that offers greater added value.

## **Research and innovation programs**

After many years of amortizing old production technology, implementing state-of-the-art technology to upgrade production processes and produce new, alternative materials is becoming a growing competitive advantage. Collaboration between IsDB member countries may facilitate the knowledge exchange required and improve the innovation capacity of the IsDB textiles and apparel industry. Implementing robotics in one IsDB member country, for instance, could serve as a best practice example for upgrading production processes in another country. Both the IsDB and industry associations could act as intermediaries between producers.

Research institutes and universities focused on industry-related topics like production machinery, sustainable production methods, or new or recycled fibers could increase their collaboration to generate valuable synergies. This could result in innovative research projects that tackle specific challenges found across various IsDB member countries. Closely linking this research network with different members of the textiles and apparel value chain could help it become an attractive breeding ground for innovative startups.

## 4.2.3

### AN INVITATION TO COLLABORATE

#### Potential financing instruments for future collaboration

To achieve equitable growth and innovative development by 2030, a range of innovative financing instruments can be applied. Such instruments will facilitate collaboration between IsDB and its partners, unlocking significant investment opportunities for the private sector. Below, exemplary instruments are further detailed.

## Debt instruments

### Description

The transition from conventional to organic cotton production takes up to three years and usually comes with reduced yields. Small-scale producers often lack the financial resources to bridge this period. To mitigate the risk of loan default, a large-scale fund can be set up to provide micro-loans to farmers

### Potential for the private sector

- Access to finance for smallholder farmers
- Minimized risk of loan default for investors due to large-scale loan pooling
- Improved availability of sustainable input materials

Long-term financing (Murabahah) to upgrade manufacturing technology

Financing of sustainable tannery production facilities (through Green Sukuk bonds)

Micro-loans for smallholder farmers to bridge transition to organic production

Social-impact bonds to improve worker safety compliance

### Description

For SMEs in particular, the fast-changing digital environment can make it challenging to keep up with new developments and requirements. Limited resources and lack of knowledge are the main causes. Public players can help mitigate that issue by supporting the development of national cloud platforms that set digital standards and give manufacturers access to advanced production tools

### Potential for the private sector

- Improved efficiency and access to digital tools
- Reduced costs for research and innovation
- Increased traceability and transparency of supply chain

Advisory on peer-to-peer financing with cryptocurrencies

Risk-sharing schemes for investors to increase FDI financing of SMEs

Co-financing of a joint cloud platform for supply chain digitalization

Crowdfunding to finance innovative textile products

## Innovative financing approaches



## Equity instruments

Use of Islamic Private Equity Funds to support strategic partnerships (between brands and local suppliers)

**"Project finance" (Musharakah) to set up industrial parks or export processing zones**

"Patient capital" (Mudarabah) to develop small-scale manufacturers into larger, industrialized players

Blended finance for sustainability initiatives

Shared blockchain innovation center

**Financial support for NGOs to serve as an innovation and knowledge hub**

Establish an import/export promotion desk to facilitate trade

Financing of joint education centers to increase workers' digital skills

## Combination of knowledge and capital

### Description

Special economic zones (SEZ) and export processing zones (EPZ) have been proven to be a significant accelerator for economic development. The establishment of industrial textiles and apparel zones in combination with incentives for early-stage financing for investors can be an effective tool for attracting foreign capital and investing in the local textiles and apparel industry

### Potential for the private sector

- Higher degree of innovation, knowledge sharing and network building within economic zones
- Increased capital availability for local producers

### Description

Knowledge sharing between national and international players is essential to long-lasting innovation along the entire value chain. Reliable forecasts of global apparel trends are important for successful exporting. Organizations should either be created or upgraded to serve as innovation and knowledge hubs within a country. These hubs should be provided free of charge to overcome systemic export hurdles and make cooperation attractive for all sides

### Potential for the private sector

- Fostering of innovation along the value chain
- More business opportunities through increased interaction and exchange
- Improved collaboration and knowledge sharing between different players



**Three young friends shopping at the mall**

The textiles and apparel industry is expected to become a key driver for further economic growth in ISDB member countries



# GLOSSARY

## 3D printing

Printing of three-dimensional textiles under computerized control

## Automation

Technological process that operates automatically with minimal human assistance

## Blockchain

Decentralized network technology that provides traceability in the textiles and apparel industry

## Circular economy

Recycling and reusing of waste materials in a closed-loop system

## Environmental footprint

Impact that the sourcing and processing of materials in the textiles and apparel industry have on the environment

## Fabric

Intermediate product that is the result of the primary processing step in the textiles and apparel industry

## Fast fashion

Inexpensive apparel produced rapidly for the mass market

## Global value chain (GVC)

Indicates how various input factors are transformed and combined through different steps by parties located around the globe to arrive at finished products

## Lead time

Time needed from the placing of the order to the delivery of the textiles and apparel products

## Man-made fibers

Artificially made fibers made of either petroleum or organic wood pulp and cotton linters

## Natural fibers

Fibers naturally produced by plants or animals

## Processing

Subset of manufacturing that processes raw materials and intermediate products derived from the textiles sector

## Robotics

Technology that can automate processes and replicate human actions

## Smart textiles

Esthetic- or performance-enhancing materials in the textiles and apparel industry that are often combined with technological components

## Trading

Trading of raw materials and semi-finished products by merchants and retail sourcing agents

## Vertical integration

Arrangement capturing various processing steps within a single supply chain



## CONTACT

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This publication is led with extensive contribution from **Dr Mustafa Yagci**, **Dr Mohammed Faiz Shaul Hamid** of the GVC Section, Department of Strategy and Transformation (DoST), **Dr Ahmed Elkhodary**, Director of DoST and **Dr Bandar Hajjar**, President of IsDB. This publication covers a wide range of complex topics and incorporated content from multiple stakeholders including IsDB staffs, IsDB Member Countries, United Nations bodies, various agencies and industry experts. We thank all of the organizations whose knowledge of the industries and related subjects has informed this publication. This brings many insights into the global challenges of multilateral development banking in the twenty- first century.

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