Policy Report on Labor Market Skills for the Fashion and Textiles Industries (D6.1)

Project FEA-VEE

Fashion Earth Alliance – Vocational Excellence and Enterprise united for training, policy reform and sustainability in the fashion, textiles and apparel industries

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Contents

I. INTRODUCTION

Purposes of the report:

The **Policy report on Labor Market Skills for the Fashion and Textiles Industries (D 6.1)** will be based on 6 policy reports on labor market skills elaborated in 6 EU countries – Greece, Germany, Spain, Bulgaria, Romania and Sweden.

The report will provide an overview of the situation in these countries, participating in the project FEA-VEA. This report will generalize the prevailing information on the EU country's labor market with special focus on Labor market skills requirements and shortages and will present insights for more sustainable development of the labor markets in terms of labor market skills integration and compliance with the needs of the business.

The specific objectives of this report:
· To define and classify labor market skills at the national context;
· To identify new trends and strategies for improvement;
· To explore the Labor market skills required by the employers;
· To explore the Labor market skills graduates are acquiring;
· To identify the Labor market skill shortages and imbalances;
· To provide examples of good practices (in matching the requirements for graduates' soft skills and labor market for instance);
· To generalize the main trends and requirements for the labor market skills at the national labor markets.

Methodology:

The proposed method to be used is a desk research - a main tool for data collection, which will help to explore the existing labor market situation in six countries (Greece, Germany, Spain, Bulgaria, Romania and Sweden). Each country report is following a preliminary defined structure and the quality content on the topic is provided by each country leader (project partner/s). The main sources for the desk include: national policy papers, labor market and skills strategies, research articles, statistical databases (OECD, Statista, and local producers of statistics), etc.

Abstract:

This policy report overview and analyses the labor market skills in the Fashion and textiles industries in six countries - Greece, Germany, Spain, Bulgaria, Romania and Sweden. The finding of the report emphasizes the significance of enhancing technical and digital skills, promoting sustainability and circular economy practices, bridging the gap between education and employment, and fostering collaboration and networking within the fashion and textiles industries. It highlights the importance of improving technical skills, such as operating computerized machinery and utilizing CAD software, as well as developing digital skills like digital marketing and e-commerce. More investments are needed in education and training programs to cultivate expertise in sustainable practices and eco-friendly materials, along with supporting research and development efforts for innovative technologies aligned with circular economy principles. Addressing skill mismatch and facilitating collaboration between educational institutions and industry stakeholders are crucial for a smooth transition from education to employment. Collaboration and networking within the industry can be fostered through the establishment of formal organizations or associations, enabling knowledge exchange and the adoption of resilient business models while promoting transparency and responsible practices.

By implementing the recommendations outlined in this policy report, countries can enhance labor market skills in the fashion and textiles industries, fostering sustainable growth, innovation, and competitiveness while addressing current and future challenges.

II. SUMMARY OF THE COUNTRY-SPECIFIC POLICY REPORTS ON LABOR MARKET SKILLS FOR THE FASHION AND TEXTILES INDUSTRIES

2.1. Situational snapshot of the labor market at 6 EU countries

The present summary is made on the basis of the information and data provided in the country reports annexed hereto (Greece, Germany, Spain, Bulgaria, Romania and Sweden). It is important to note that the information and data, though following an identical template, are not homogenous and thus provide the comparative analysis is adjusted accordingly. With this in mind, the trends and conclusions reflect a relativized comparison, which does not claim for a research-based ground, it simply highlights the country specifics in the various aspects of the fashion and textile industry and how they benchmark to some macro-trends at country of EU level.

The series of crises over the past 3 years (the pandemics, the global value chain disruptions, the energy crisis, the conflict in Ukraine) have in general negatively affected the sector in all 6 countries yet at different extent in its diverse aspects.

A) Statistical data – comparison and analysis for 6 countries

Employment trends:

Each of the countries tackled in this report has its unique employment and workforce situation in the fashion and textile sector. Bulgaria is suffering a tremendously negative demographic trend which impacts the economic performance of the country. It has a decline of the employment in this sector, which is in line with the overall economic business decline. In Greece the overall business environment is featured by a gradual increase of employees per year. However, the Fashion and textile sector (FTS) shows specifically a decrease in the number of self-employed while at the same time there is an increase in the number of people recruited in the sector. Such a trend might be attributed to a process of consolidation of businesses and a shift towards larger-scale operations, or a shift towards the service sector. Similarly, to Bulgaria, Germany has been experiencing a demographic winter for several decades now, along with aging population. Romania is going through a process of progressive shrinking of employment together with a deficit of labor force. These trends are to some extend compensated by processes of migration (Germany), as well as rapid job creation by multinationals (Romania). Spain is likewise having a declining performance of the sector, with less than 1% of the total employment at country level. Sweden has experienced a decrease in the industry's size but employs a higher percentage of young people compared to the overall economy.

Exports and trade partners:

The fashion and textile industry of all 6 countries tackled herein, pursues export and international partners. The EU Single Market is the main selling market for the majority of these countries. Bulgarian companies sew mainly on the so-called needlework (i.e., the very early stage of the value chain) meaning that the final product belongs to foreign companies and does not come out on the market under a Bulgarian brand. In full contrast to that, Sweden has a number of world-known /globally recognized brands (e.g. leading retail and wholesale trade global company H&M). The remaining 5 countries are facing competition from low-cost countries (e.g., from Asia), which significantly impacts the sector and brings about a number of challenges. The major factor is the low labor cost and hence low/competitive prices of the end product. The response by

the sector in EU countries often spells out in the following actions, trends and shifts that help overcome those challenges:

a) The low labor costs of Asian products create price pressure and hence drives EU manufacturers towards seeking higher value-added products. To sustain competitive, many EU companies have shifted or outsourced their production to low-cost countries, which is one of the reasons for job losses and decline in the domestic manufacturing base. This is particularly valid for labor-intensive industries as it the fashion and textile sector and the case in the majority of the 6 countries that are subject to the present analysis.
b) The EU establishes strict standards and regulations that ensure product high quality, safety, sustainability and unique added value and selling point. The EU producers focus more and more on design, innovation, creativity and brand identity. This also opens up new opportunities for the EU companies, e.g., identify niche markets, premium segments, particular target groups (e.g. consumers who value ethical and sustainable fashion). IPR protection, R&D programs or policies and programs supporting the SMEs' resilience help leverage their competitiveness and combat some negative aspects of the global market.

Workforce Characteristics and Demographics:

The workforce characteristics and demographics are quite diverse across the 6 target regions, however some trends are common to several of these countries, while others remain only country-specific. In terms of gender distribution Bulgaria, Romania, Greece, and Spain show a relatively higher proportion of female workers in the fashion and textile sector. Germany and Sweden demonstrate a more balanced gender distribution or even a higher representation of male workers.

Most of these countries suffer demographic decline along with aging population, which, in turn, is closely linked with the education and skills levels of the workers. In Sweden the FTS industry employs 18% if individuals aged 16-24, which indicates a higher %-age of young workers. Germany exhibits a more diverse age distribution, with a decent mix of younger and older employees. Both Germany and Sweden have a reputation for highly skilled and educated workforce in this sector, with a focus on specialized training and vocational education, responding to the demand for new contemporary knowledge and skills with regards to new technologies, digitalization and sustainability.

Bulgaria, Romania, Greece and Spain follow a trend of reducing working-age employees thought they are far from prevailing. Bulgaria, Romania, and Greece have a significant number of workers in lower-skilled roles, working in the initial and lower-tech stage of the added-value chain while Sweden, Germany and Spain feature the final stages of the value chain and high-tech deployment, with their own brands. That is also a reason why these three countries have relatively more stable labor markets and a higher availability of skilled workers, although shortages still exist in specific areas.

Germany and Sweden are at the forefront of technological advancements and automation in the fashion and textile sector, leading to changes in job roles adapting to new skill requirements. Bulgaria, Romania, Greece and Spain are adopting technology at a slower pace, which has its implications on the workforce development and competitiveness.

Germany, Sweden, and Spain demonstrate a stronger emphasis on sustainability and ethical practices within the fashion and textile sector, influencing workforce-related initiatives and trends (e.g. vocational and educational trainings, qualification and re-qualification), while Bulgaria, Romania, and Greece are

increasingly recognizing the importance of sustainability but are still in the early stages of implementation.

Minimum and Average Salaries:

The available information indicates differences in minimum and average salaries in the fashion and textile sector across these countries, as well as the sector's positioning on the salary scale. Greece places this sector at a salary about 10-20% above the minimum salary, while in Germany it may shift closer to the average salary, the latter being about double the minimum wage at country level. Bulgaria and Romania are known for lower salaries in the sector compared to the EU, equaling or being close to the country-specific minimum wage. Spain has negotiated in 2021 a minimum wage increases specifically in the FTS sector.

B) Main factors affecting the FTS at national level

A number of multi-aspect global factors have their impact on the FTS in each country at diverse extend depending on the local context and the additional mix of local factors:

- Global market dynamics - at global level there has been rapid change in consumer behavior and preferences, fashion trends, global economic conditions, and international trade policies – these factors altogether heavily impacting the competitiveness of the sector in each of the target 6 countries.
- Cost Competitiveness - maintaining competitive production costs while ensuring quality and value is crucial for the industry's success. Some of the regions, such as Bulgaria, Greece, Romania, maintain low labor costs, i.e. low manufacturing costs while still facing strong competition from the Asia. Others, such as Sweden for instance, are pursuing high quality added-value end products with their own brand intended for a well-defined target group of consumers, e.g. ones who can afford their prices, ones who value sustainable practices as well as innovative digital solutions.
- Technological Advancements - embracing technological innovations like automation, digital design tools, and advanced manufacturing processes determines the efficiency, speed, and product quality of the sector. Digitalization has its contribution to lowering some types of costs (e.g. e-commerce vs store houses) while adding costs in terms of new technologies introduced. Finding the right balance of all the impacting factors is one of the factors enabling success of the sector.

At **national level** the following specifics could be highlighted:

Bulgaria:

- lack of an up-to-date national strategy and dedicated government policy for the fashion and textile sector in particular. The business environment is featured by quite general regulations that might leave room for incompliance with product safety, labeling, sustainability, and labor condition regulations – all of them being essential for businesses operating in the fashion and textile industry in Bulgaria and thriving to compete internationally.
- lack of internationally recognized Bulgarian brands, though a number of international renowned ones are sewed in Bulgaria
- limited Vet and public education in the spectrum of fashion and textile related skills
- insufficient skilled labor force with traditional professional skills as well as diverse new skills

Greece:

- highly bureaucratic business environment especially in regard to foreign investments, high tax burden, and lack of government support for the fashion industry.
- Outdated teaching methods, limited span of VET, no public education in fashion. There is a need for a thorough review of the entire education plan accounting also for the gap in career follow-up after education. Compared to what the labor market is offering, there is higher demand for a wide range of digital qualifications - digital and computing skills, proficiency in digital marketing, design, data analysis, social media, online retailing.
- Greece has a widely open blend for a work to be granted copyright protection – the only prerequisite is its originality. Any creative work, no matter how it is expressed, can be IPR-protected.
- The industry in Greece is gradually adopting sustainable and ethical practices and is thus transforming towards ecological principles, social responsibility, and ethical production methods, but there is a need to align with European directives (e.g. EC Waste Directive) and enhance recycling and eco-design efforts.

Germany:

- Innovation and Material Development - there is a call for innovation, particularly in areas such as material development from waste, changes in distribution channels (e.g. second-hand), and changes in the cityscape.
- The fashion industry in Germany receives less government support compared to other sectors, this leading to a low perception in international comparison
- The industry is moving towards a sustainable and circular economy model, emphasizing the efficient use of resources, reduced environmental impact, and greater transparency in production practices.

Romania:

- Entrepreneurship education is not integrated as a compulsory subject in primary and secondary education in Romania
- The education reform project, Educated Romania, initiated and developed by the Presidential Administration, is a result of the demographic evolutions and digitalization impact, and aims at developing the competences of the young generation and adults who participate in various re-qualification activities. It is still an ongoing process.

Spain:

- there are efforts to update knowledge and skills through vocational education and training, but the system is perceived as bureaucratic. There is a need for improved teaching methods and interdisciplinary training.
- The industry faces a digital gap, with a significant portion of workers lacking digital and computing skills. Embracing Industry 4.0 technologies, such as blockchain and e-commerce, is crucial for digital transformation, for efficiency and customer engagement.
- The Spanish TFS industry has a high export potential. In view of the efforts to recover markets, it is gradually moving towards a circular economy model and responding to consumer demands for greater transparency. Greenwashing practices are being identified, and responsible consumption and second-hand platforms are gaining popularity. Trends of repairing and hand-making are likewise observed.

Sweden:

- Textile waste management - the lack of a national system for separate textile waste collection poses challenges for the industry, but the upcoming EU textile waste directive is expected to drive circular design and end-of-life opportunities.
- Digitalization and AI - the industry is adopting digitization and AI technologies for virtual try-on experiences and 3D sampling, particularly in the production sector.
- Sustainability and circular practices - the focus is on environmentally friendly materials, sustainable supply chains, second-hand purchases, sharing initiatives, repair services, and rentals. Traditional shopping centers are transforming into meeting places for circular consumption.

Overall, the factors affecting the fashion and textile sector in these countries include market dynamics, cost competitiveness, skilled workforce availability, technological advancements, regulatory compliance, education and skills gap, government support, sustainability, circular economy practices.

2.2. Defining and classifying labor market skills at the national context.

The qualitative and quantitative data gathered for the fashion and textile sector in the participant countries shows that in all 6 countries the sector is undergoing digital transformation at different scale. In Bulgaria, Greece, Romania these skills are still relatively underrepresented in their vocational and educational training systems. There is a need for a shift in the mind-set towards life-long learning (LLL) in the FTS similarly to other traditional sectors that are transforming digital, green and more innovative.

Net technologies such as 3D modeling and printing, AR/VR, virtual prototyping, product lifecycle management (PLM) systems, computer-aided design (CAD), are increasingly entering this sector in Germany and Sweden, followed by Spain. This stems from the need of complying with European regulations and meeting market expectations regarding sustainability, innovation and resilience. This has resulted in high production costs and has brought about big concerns about competitiveness mainly among small companies.

Besides digital and sustainability-related skills Greece, Spain, Germany and Sweden, especially the latter two, show a great demand for soft skills – communication, teamwork, problem-solving, creativity, and adaptability. While technical and digital skills are much better understood, the soft skills sometimes ‘take the back seat’ in the VET system or in the LLL self-navigation of the labor force. Bulgaria and Romania have the soft skills while lacking the needed technical level of skills and qualification compared to the remaining countries in the analyzed group. Spain highlights a lack of communication channels between educational stakeholders and the industry's requirements. While trying to recover some old markets, the sector has a demand for proficiency in languages such as English, French, and Mandarin. This can significantly enhance career prospects in all 6 countries with regards to the export potential in each of them.

2.3. Identification of the labor skill shortages and imbalances.

Identifying specific labor market skills shortages and imbalances in the fashion and textile industry in the 6 target countries requires detailed analyses on the basis of up-to-date data. While the present country reports lack homogeneous statistical data on this, a number or general trends and potential areas of skills shortages and imbalances in the industry can be outlined, stemming also from the skills needs listed in Section 2 of the present report. These vary over time and across different segments of the industry.

Bulgaria's VET system gives a good basis for the basic skills in the FTS in its traditional form. The technical skills are well represented in the general education system. However, the sector is not as strongly competitive on international or global scale, it is slowly transforming to the new global trends due to lack of targeted policy and hence the shortages it faces stem from the lower interest by the available skillful labor force to pursue career in this sector.
Greece faces similar challenges – the skill mismatch similarly spells out in a relatively high percentage of overskilled workers that can hardly be sustained I the sector due to better financial and development opportunities in other sectors that likewise demand these skills. This mismatch creates difficulties in transitioning from education to employment. In contrast to the Greek VET system that has tangible shortages with regards to the FTS, **Germany** has a strong VET that relies on work-based learning. The sector has in-demand job positions such as fashion and clothing designers, textile and fashion technicians, pattern makers, and specialists in digitalization and sustainability are in demand. At the same time there is a shortage of workers in the areas of circular economy, sustainability, and production sectors, as much of the production has been outsourced. **Spain** and **Romania** lack professionals for this industry at various levels, regardless of the increase in the number of graduates, which is partly due to a less committed behavior and frequent job changes among the new generations. **Sweden** experiences a shortage of professional knowledge on circular economy, textiles, materials, quality, production in the context of the upcoming EU legislation on circular textiles.

Overall, the main labor skill shortages and imbalances in the fashion and textile industry across these countries include technical skills gap, sustainability expertise, digital skills, business and entrepreneurial skills. Each country has its own specific challenges and areas of focus within the industry.

2.4. Conclusion on the main trends and requirements for the labor skills at the national labor market

Based on the information provided in the annexed country reports, as well as considering publicly available information, here are some general conclusions and policy recommendations for the fashion and textile sectors in Bulgaria, Greece, Germany, Romania, Spain, and Sweden:

Enhancing Technical and Digital Skills:

All countries should focus on improving technical skills in the fashion and textile industry, particularly in operating computerized machinery, CAD software, and other relevant technical tools. They should likewise promote and emphasize the development of digital skills, including digital marketing, e-commerce, social media management, data analytics, and utilization of digital tools and platforms for customer engagement and online sales.

Promoting Sustainability and Circular Economy:

- Invest in education and training programs to develop expertise in sustainable practices, eco-friendly materials, and production processes that align with the latest trends of business transformation of the sector.
- Support research and development of innovative technologies and materials that align with circular economy principles.

Bridging the Gap Between Education and Employment:

- Address the skill mismatch and difficulty in transitioning from education to employment, as observed in Greece for instance.
- Foster closer collaboration between educational institutions and industry stakeholders to ensure curriculum relevance and provide internship and job placement opportunities for students as well as long-term career opportunities
- Countries like Germany, Sweden, Spain and Bulgaria should continue to enhance their strong VET systems and maintain or introduce work-based learning opportunities. They should provide incentives and support for students to pursue vocational education and training, as it plays a crucial role in developing practical skills for the industry.

Supporting Small and Medium Enterprises (SMEs):

- Recognize the importance of SMEs in the fashion and textile industry and provide targeted support, such as access to financing, business development programs, and export assistance. Enhance the development of business clusters in the sector to leverage efficiency and the potential for competitiveness
- Encourage collaboration and knowledge-sharing among SMEs for mutual learning, exchange of experience and identifying opportunities for clustering.

Collaboration and Networking:

- Encourage the establishment of formal organizations or associations that facilitate knowledge exchange, skills development, and industry collaboration within each country.
- Seek to adopt resilient business models, promote transparency and responsible practices, while addressing issues such as greenwashing and unethical practices.

In a nutshell, the new consumer with new demands and behavior is seen as a driver of change and needs to be put at the center of the business development, the latter accounting for innovative trends, 'hard' and 'soft' skills and sustainable and resilient business models.

III. COUNTRY-SPECIFIC POLICY REPORTS ON LABOR MARKET SKILLS FOR THE FASHION AND TEXTILES INDUSTRIES

BULGARIA

3.1.1. Situational snapshot of the labor market at national level

Bulgaria has a significant presence in the fashion and textile manufacturing industry. It has a well-developed infrastructure, skilled labor force, and competitive production costs, making it an attractive destination for many international brands. The country has a strong focus on textile and apparel production, including garments, footwear, accessories, and home textiles. Major textile and clothing production clusters are located in cities like Sofia, Plovdiv, Ruse, Varna, and Sliven. These regions have a concentration of factories, textile mills, and related infrastructure.

Bulgaria has a skilled workforce in the textile and clothing industry. Wages in the sector are generally lower compared to Western European countries, which attracts foreign companies in this sector to settle in Bulgaria and benefit from the lower labor cost thus ensuring better competitiveness for its products. This is a major reason for the fashion and textile industry in Bulgaria to heavily rely on exports, though not under Bulgarian brands. The main export markets include countries within the European Union (EU), such as Germany, Italy, France, and Spain, as well as the UK (non-EU). Bulgaria's EU membership provides it with easy access to these markets.

In recent years, there has been an increasing focus on sustainability and ethical production in the fashion and textile sector. Some Bulgarian companies have started adopting environmentally friendly practices and promoting fair labor conditions. Despite its strengths, the sector faces a bulk of challenges. These include competition from other low-cost manufacturing countries, the need for continuous innovation and design improvement, and the rising importance of sustainable practices.

A) Statistical data and analysis.

The fashion and textile sector in Bulgaria has been a consistent source of employment, indicating stability within the industry. Bulgaria has experienced growth in textile and clothing exports, suggesting increased international demand for its products. The sector's production output has remained stable and exhibited slight growth, reflecting a consistent manufacturing capacity. The main export destinations for Bulgarian textile and clothing products are primarily European Union countries, emphasizing the sector's integration into the European market. Dosmetic consumption of textiles and clothing in Bulgaria has been on the rise, driven by higher income levels and changing consumer preferences.

Overall, these trends indicate a positive outlook for the fashion and textile industry in Bulgaria, with potential for continued growth in exports, stable production, and an expanding domestic market.

- Employment:

  In the past ten years there has been a slow restructuring of employment – from lower- to highervalue-added activities. Still, the structure of the Bulgarian economy has remained less favourable than EU-28's.

The structure of employment in the sector according to industries' technological intensity shows that low-technology economic activities continued to dominate in the period from 2017 - 2020. This was counterbalanced by a rise in the share of medium-low-technology – by 1.8 p.p. to 23.8%, and of medium-high technology – by 1.6 p.p. to 16.2%, while the share of high-technology levelled off around the 2012 rate (3.6% in 2017). Regardless of the generally positive trends, the structure of employment in the FT sector in Bulgaria remained less favourable than average EU-28.
Number of Employees in Bulgaria: NACE 2008: Arts Entertainment and Recreation data was reported at 36,350.000 Person in March 2023. This records an increase from the previous number of 36,288.000 Person for Feb 2023.
This indicator is updated monthly, averaging 35,024.00 Person from Jan 2008 to Mar 2023, with 183 observations. The data reached an all-time high of 44,949.00Person in Jul 2017 and a record low of 30,593.000 Person in April 2008. It remains with active status in CEIC and is reported by National Statistical Institute. The data is categorized under Global Database's Bulgaria – Table BG.G011: Number of Employees.

- Exports: Bulgaria has been a significant exporter of textiles and clothing. According to Eurostat, the value of textile and clothing exports from Bulgaria increased from approximately €1.14 billion in 2018 to around €1.21 billion in 2019. However, more recent export data for subsequent years is not available.
- Production: The production output of the fashion and textile sector in Bulgaria has shown stability and growth in recent years. In 2019, the textile production index in Bulgaria increased by 1.3% compared to the previous year.
- Trade Partners: The main export destinations for Bulgarian textile and clothing products include countries within the European Union (EU), such as Germany, Italy, France, and Spain. + the UK (non-EU).
- Domestic Market: Domestic consumption of textiles and clothing in Bulgaria has been steadily increasing, driven by rising income levels and changing consumer preferences. However, specific data on domestic market size and consumption patterns for the period 2018-2021 is not readily available.

**Sources: CEIC - https://www.ceicdata.com/en/bulgaria ; Eurostat https://ec.europa.eu/eurostat ; NSI - https://www.nsi.bg/sites/default/files/files/pressreleases/Education2021_en_OCQ5H5R.pdf;*

Level of qualification of the human resource at national level - number of employees with higher, secondary education etc., number of VET graduates

In 2021, 17.8 thousand young persons graduated with secondary education from art schools, sport schools and vocational gymnasiums. Level of professional qualification was acquired by:

- First level of professional qualification from vocational classes - 461 students;
- Second and third level of professional qualification - respectively by 2.7 and 13.5 thousand students;
- Fourth level of professional qualification in vocational colleges with enrolment after secondary education - 345 students.

From the total number of students who acquired third level of professional qualification, the highest relative share was of those who studied specialties in the field of engineering (24.1%), followed by those in the field of 'Personal services' (18.6%). The relative shares of students who acquired fourth level of professional qualification were highest in the fields of 'Security services' - 60.3% and 'Arts' - 15.7%.

During the 2021/2022 school year, 1 123 students were enrolled in 28 private vocational gymnasiums and private vocational colleges with enrolment after secondary education, or 0.7% of the total number of students in vocational education. Less than 10% have selected specialties in the field of design, fashion and arts.

Remuneration levels in the industry in comparison to country averages (per country) and to current living standards; country legislation with regard to minimal wage.

The average wage in Bulgaria is generally lower compared to the European Union average. According to Eurostat, in 2020, the average monthly gross wage in Bulgaria was around €700, significantly lower than the EU average. It's important to note that these figures encompass all sectors and may not specifically reflect the wages in the fashion and textile sector. The fashion and textile sector in Bulgaria often offers much lower wages compared to sectors such as finance or technology. This is due to various factors, including the competitiveness of the industry, production costs, and regional disparities within the country.

There are strong inter-regional disparities at sub-national level. Remuneration levels vary across different regions of Bulgaria. Wages tend to be higher in major cities like Sofia and Plovdiv, where the concentration of fashion and textile businesses is greater. In contrast, wages in rural areas or smaller towns may be relatively lower.

Demographic changes and trends impacting the sector

Bulgaria, like many other European countries, is experiencing an aging population. This demographic shift has implications for consumer behavior and preferences. Older consumers may have different fashion preferences and spending patterns compared to younger generations. Adapting to the needs and tastes of the diverse age target groups is crucial for businesses in the fashion and textile sector.

Urbanization is another significant trend in Bulgaria. More people are migrating from rural areas to cities in search of better opportunities. This shift influences consumer behavior, as urban dwellers often have different fashion needs and preferences compared to rural populations. Urban areas tend to be hubs for fashion and textile retail, providing a larger customer base for industry players.

Bulgarian consumers are becoming increasingly influenced by global fashion trends and digital platforms. The rise of social media and e-commerce has transformed the way people discover, shop, and interact with fashion. Businesses in the fashion and textile sector need to adapt to the changing consumer behaviour by embracing digital marketing strategies, online sales channels, and incorporating sustainability and ethical considerations into their products.

The demand for sustainable and ethical fashion is growing worldwide, and Bulgaria is no exception. Consumers are increasingly conscious of the environmental and social impact of their clothing choices. This trend has led to an increased emphasis on eco-friendly materials, fair labor practices, and transparent supply chains by the year 2020. The lockdown in 2020 was a global transformational vircumstance that lead to the cut-off of supply and value chains, and to close-down of a number of private businesses, including in the textile sector. The latter impacted the scale of the demand for sustainable textile matarials. There are examples of BG SMEs adapting to this shift by incorporating sustainable practices and promoting ethical production, though these are not enough to set it as a tangible trend for the sector.

As Bulgaria's economy is struggling to recover from the multiple crises that struck over the past 2-3 years, disposable income levels are rising. This provided untill recently opportunities for growth in the fashion and textile sector as consumers had more purchasing power. Businesses can cater to evolving consumer preferences and offer higher-end products or luxury brands to capture this expanding market segment.

B) Main factors affecting the FTS at national level

The fashion and textile industry in Bulgaria is influenced by various factors that impact its growth and development. Here are some of the main factors affecting the industry:

Global market dynamics - changes in consumer preferences, fashion trends, and global economic conditions as well as shifts in international trade policies and tariffs affect the competitiveness of Bulgarian textile and clothing exports.

Cost competitiveness plays a vital role in the fashion and textile industry. Bulgaria has traditionally been known for its competitive production costs compared to Western European countries. However, it faces competition from other low-cost manufacturing countries, particularly in Eastern Europe and Asia.

Furthermore, a certain share of its production goes for export under foreign trade marks. Maintaining cost competitiveness while ensuring quality and value is essential for the industry's success.
Skilled workforce availability is crucial for the fashion and textile industry. Bulgaria has a long history of textile and clothing manufacturing, and it benefits from a relatively skilled labor force. However, attracting and retaining skilled workers is a major challenge, especially given the low salaries that feature this sector. Investing in continuous training and development is necessary to both retain skilled workforce and maintain a competitive advantage.
Technological advancements have transformed the fashion and textile industry, affecting various aspects such as design, production processes, and distribution. Embracing and adopting technological innovations like automation, digital design tools, 3D printing, and advanced manufacturing processes are factors determing the level of efficiency, speed, and product quality and hence the overall competitiveness of the sector on the EU and international markets.
The fashion and textile industry in Bulgaria is subject to various regulations and standards related to product safety, labeling, sustainability, and labor conditions. Staying compliant with local and international regulations is essential for businesses operating in the sector.
These factors, among others, shape the landscape of the fashion and textile industry in Bulgaria, and businesses must navigate them effectively to thrive in a competitive market.

Regulation and policies related to the educational system and entrepreneurship

Listed below are some key aspects stemming from regulations and policies related to the educational system and entrepreneurship in general, though not specifically regulating the textile sector, but they are as applicable to this sector and are designed to support the development of skilled professionals and foster entrepreneurship.
The Bulgarian educational system offers vocational training programs that cater to various sectors, including the fashion and textile industry. vocational education and training (VET) programs provide practical skills and knowledge relevant to the industry, preparing students for careers in fashion design, textile production, and related fields. Bulgaria has universities and colleges that offer degree programs in fashion design, textile engineering, and related disciplines. These higher education institutions provide theoretical and practical education to students pursuing careers in the fashion and textile sector. Some notable higher education institutions in Bulgaria with relevant programs include the National Academy of Art, Sofia University, and Technical University of Sofia.
Bulgaria has initiatives and policies in place to promote entrepreneurship in various sectors, including fashion and textiles. Support mechanisms such as business incubators, grants, and funding opportunities are available to aspiring entrepreneurs in the fashion and textile industry. The government and various organizations provide guidance and resources to encourage entrepreneurship and facilitate the growth of startups in the sector. Intellectual property rights (IPR) are crucial in the fashion and textile industry to protect designers' creations and prevent counterfeiting. Bulgaria has legislation and regulations in place to safeguard intellectual property rights, including trademarks, copyrights, and design patents. Entrepreneurs in the sector can avail themselves of legal protections to safeguard their innovations and designs.
The Bulgarian government and relevant institutions promote exports in the fashion and textile industry through various initiatives. Export promotion agencies provide support services, market research, and networking opportunities to help businesses in the sector expand their international presence.

Demographic changes in Bulgaria have a significant impact on the fashion and textile industry. Here are some ways in which demographic changes influence the industry:
Bulgaria, like many European countries, is experiencing an *aging population*. This demographic shift has implications for the fashion and textile industry. Older consumers may have different clothing needs, such as comfortable and age-appropriate designs. There may be an increased demand for products like casual wear, functional footwear, and accessories that cater to the specific preferences and requirements of older individuals. As the demographic composition of Bulgaria undergoes changes over time, so do *consumer*

preferences. Different age groups have distinct fashion tastes, lifestyles, and purchasing behaviors. For example, younger generations are more interested in fast fashion and trendy clothing, while older consumers are inclined to prioritize comfort and durability. Fashion and textile businesses need to adapt their product offerings and marketing strategies to cater to the changing preferences of different demographic segments. Demographic changes such as population growth, migration patterns, and urbanization influence the *size and composition of the market*. Urban areas, where the population is concentrated, tend to have a larger consumer base and higher demand for fashion and textile products. This impacts the location of retail outlets, marketing strategies, and distribution channels within the industry.
Demographic changes, particularly among younger generations, have led to a growing awareness of *sustainability and ethical practices* in the fashion and textile industry, though this trend is only roughly emerging. Younger consumers might be concerned about environmental and social issues, including the impact of the fashion industry on the planet and labor conditions. Businesses that incorporate sustainability and ethical practices into their operations are likely to attract these environmentally and socially conscious consumers. Another aspect related to changes in demographics, is the income levels and disposable income that affect the *purchasing power of consumers*. As the economy improved and disposable incomes were rising, consumers had more spending capacity for fashion and textile products. This can lead to increased demand for higher-quality, premium, or luxury items within the industry. So was the case up to the covid crisis, when this trend reached a break point and took on a different direction – decreasing income of a vast share of the population, decreasing purchasing power and increase of the demand for lower-cost produce or second-hand clothes.

Economic and financial aspects

The fashion and textile industry in Bulgaria is influenced by various economic and financial aspects:

- *Economic contribution*. The fashion and textile industry being a long-time traditional sector for Bulgaria makes its fair contribution to Bulgaria's economy. It generates employment opportunities, contributes to the country's GDP, and plays a role in export earnings. The industry's performance has implications for overall economic growth and development and is specifically important for the regional economy in particular regions. Economic factors such as GDP growth, inflation rates, consumer spending, and disposable income levels impact the purchasing power and demand for fashion and textile products. Economic stability, market conditions, and consumer sentiment are factors that strongly influence the industry's performance and profitability.
- *Export-orientation*. Bulgaria has a strong export-oriented fashion and textile sector. The industry exports a significant portion of its production to international markets, including other European Union countries. Export earnings contribute to foreign exchange reserves and trade balance.
- *Cost competitiveness*. Bulgaria has traditionally been known for its relatively lower production costs compared to Western European countries – it brings cost effectiveness to the produce while being yet considered a negative factor preventing tangible increase of salaries in the sector. This cost advantage helps though attract manufacturing operations and foreign investments in the fashion and textile sector. Maintaining cost competitiveness is crucial for the industry's sustainability in the global market while bringing limited added value to the Bulgaria compared to the exported added value.
- *Supply chain integration or disruption*. The fashion and textile industry in Bulgaria is part of a global supply chain. It relies on sourcing raw materials, such as textiles, fabrics, and accessories, from both domestic and international suppliers. Bulgaria has been well integrated within the global supply chain, which influences the industry's efficiency, production costs, and responsiveness to market demands, by the time of the covid crisis. As in the majority of other sectors, the value chain disruptions are still in place and have their negative impact on the local industry, the textile sector inclusive.

- *Foreign Direct Investment* (FDI). As mentioned above, foreign direct investment plays a significant role in the development of the fashion and textile industry in Bulgaria. International companies may invest in production facilities, distribution networks, or establish partnerships with local businesses, taking advantage of the lower wages that ensure significant cost savings. FDI brings capital, technology, and expertise, contributing to the growth and competitiveness of the industry on the international scene. Bulgaria's membership in the European Union provides advantages for the fashion and textile industry by allowing for duty-free access to EU markets, facilitating trade with other member states. Compliance with EU regulations and standards is necessary for accessing the EU market and maintaining competitiveness.
- *Financing and access to capital* is essential for businesses in the fashion and textile industry. Companies require funding for various purposes, including research and development, machinery and equipment, inventory management, marketing, and expansion. Access to financial resources, such as bank loans, venture capital, or government initiatives, supports the growth and innovation within the industry. This is especially keen nowadays when the sector is transforming from a traditional to a semi-hightech one, introducing innovative equipment, new printing and design technologies, etc.

Digitalization

The level of digitalization in the fashion and textile sector in Bulgaria has been growing steadily in recent years. While it may vary among different businesses and sub-sectors, here are some key aspects of digitalization in the industry:

- The adoption of *e-commerce* has been significant in the fashion and textile sector in Bulgaria. Many businesses, including retailers, brands, and designers, have established online platforms and e-commerce stores to reach a broader customer base. This allows consumers to browse and purchase products online, leading to increased convenience and accessibility.
- *Digital marketing* is gaining an ever more crucial role in promoting fashion and textile products in Bulgaria. Businesses leverage various online marketing channels such as social media advertising, search engine optimization (SEO), influencer collaborations, and email marketing to raise brand awareness, engage with customers, and drive sales.
- Fashion and textile businesses in Bulgaria are utilizing *data analytics* to gain insights into customer preferences, behaviour, and market trends. By analyzing data collected from online interactions, businesses can personalize product recommendations, tailor marketing campaigns, and optimize inventory management. This goes hand-in-hand with the digital marketing approach widely adopted by the fashion and textile sector in Bulgaria.
- Digitalization is also transforming *supply chain management* in the fashion and textile sector. Technologies such as radio frequency identification (RFID) tagging, barcoding, and enterprise resource planning (ERP) systems are being implemented to enhance inventory visibility, streamline logistics, and improve overall efficiency.
- The integration of *virtual try-on and fitting* technologies is still in its embryonic stage in Bulgaria, yet gaining traction in the fashion and textile sector. Through augmented reality (AR) or virtual reality (VR) applications, customers can visualize how clothing items would look on them without trying them physically. This enhances the online shopping experience and reduces the likelihood of returns.
- Digital solutions are being used to address *sustainability and traceability* concerns in the fashion and textile industry. Blockchain technology, for example, allows for transparent and immutable records of supply chain transactions, enabling consumers to trace the origins of products and verify ethical and sustainable practices.

- In response to the COVID-19 pandemic and the limitations on physical gatherings, *virtual fashion shows and exhibitions* have gained prominence. Designers and brands have embraced digital platforms to showcase their collections, engage with audiences, and facilitate business-to-business interactions.

Sustainability aspects

Sustainability has become an increasingly important aspect of the fashion and textile industry in Bulgaria. Here are some key sustainability aspects within the industry:

There is a growing emphasis on using sustainable materials in the fashion and textile sector in Bulgaria. This includes the use of organic and natural fibers, such as organic cotton, hemp, and linen, which have a lower environmental impact compared to conventional materials. Additionally, recycled and upcycled materials are gaining popularity as they help reduce waste and conserve resources. Ensuring ethical and fair labor practices is a crucial sustainability aspect. This involves promoting safe working conditions, fair wages, and respecting workers' rights throughout the supply chain. Businesses are encouraged to adopt certifications such as Fairtrade, Fair Wear Foundation, or GOTS (Global Organic Textile Standard) to demonstrate their commitment to ethical practices. The adoption of circular economy principles is gaining traction in the fashion and textile industry in Bulgaria. This involves designing products with durability and recyclability in mind, as well as promoting recycling and reusing materials. Some businesses, though scarecely at this stage, have implemented take-back programs or collaborate with recycling initiatives to reduce waste and extend the lifespan of products. Encouraging local production and sourcing practices can contribute to sustainability. By reducing the carbon footprint associated with long-distance transportation, supporting local artisans, and utilizing domestic resources, the industry can minimize environmental impacts and promote local economic development. The fashion and textile industry is known for its significant water and energy consumption, hence water and energy preservation is needed. Sustainable practices that aim to reduce water usage through innovative technologies, such as water-efficient dyeing and finishing processes are demanded for by the bigger producers in this sector. Energy-saving measures, including the use of renewable energy sources and energy-efficient machinery, are also being adopted to minimize the industry's environmental footprint.

Raising consumer awareness about sustainable fashion choices is an essential aspect of sustainability. Educating consumers about the environmental and social impacts of the fashion and textile industry empowers them to make more conscious purchasing decisions and support sustainable brands and practices.

Government initiatives (international promotion of the sector and govermnet support for international exhibitions), industry collaborations (business clusters), and consumer demand for sustainable products are driving the adoption of these sustainability aspects in the fashion and textile industry in Bulgaria. Businesses that integrate sustainability into their operations can enhance their competitiveness, meet evolving consumer expectations, and contribute to a more environmentally and socially responsible industry.

Changes in consumers behaviour

There have been notable changes in consumer behaviour in the fashion and textile industry in Bulgaria. Here are some key trends and shifts in consumer behaviour:

- Shift towards online shopping, which was further accellerated by the covid restrictions. Businesses are adapting to this shift by strengthening their online presence, digital marketing and enhancing the online shopping experience.
- Influence of social media and influencers
- Value for money and price sensitivity is gaining more and more importance for many consumers. Affordability and discounts are key considerations during purchasing decisions.

- Shift towards comfort and casual wear – this has been influenced by the covid restrictions all across Europe and Bulgaria likewise accommodates this trend. As remote work and stay-at-home measures became more prevalent, there has been an increased demand for comfortable clothing suitable for both work-from-home and leisure activities.
- Emphasis on local and independent brands: Consumers in Bulgaria value local and independent fashion brands, unique designs, craftsmanship, and the story behind the products. There is an appreciation for locally made clothing and textiles, fostering a sense of pride and connection to local talent and entrepreneurship.

3.1.2. Defining and classifying labor market skills at the national context.

In the national context of Bulgaria's fashion and textile industry, labor market skills can be defined and classified into various categories. Here are some common skills and classifications within the industry:

1. *Technical skills*:

    - Sewing and garment construction - proficiency in sewing techniques, pattern making, garment assembly, and fitting.
    - Textile production - knowledge of textile manufacturing processes, including weaving, knitting, dyeing, and printing.
    - Quality control - ability to assess and maintain quality standards throughout the production process, ensuring accuracy and precision.
    - Machine operation - competence in operating textile machinery and equipment, such as sewing machines, looms, cutting tables, and printing machines.

2. *Design and creativity*:

    - Fashion design - expertise in conceptualizing, sketching, and creating original fashion designs.
    - Textile design - skills in creating patterns, prints, and textures for textiles and fabrics.
    - Color theory - understanding of color harmonies, trends, and the ability to select and coordinate color palettes.
    - CAD (Computer-Aided Design) - proficiency in design software, such as Adobe Illustrator or AutoCAD or other specialised software for digital design and pattern making.

3. *Product development and merchandising*:

    - Trend analysis - ability to research and identify fashion trends, consumer preferences, and market demands.
    - Product development - skills in developing new products, managing product lines, and coordinating the production process.
    - Merchandising - knowledge of retail strategies, assortment planning, pricing, and promotion to optimize sales and profitability.
    - Inventory management - competence in managing stock levels, forecasting demand, and optimizing inventory turnover.

4. *Marketing and branding*:

- Fashion marketing - understanding of marketing principles and strategies specific to the fashion and textile industry.
- Brand management - skills in building and maintaining brand identity, positioning, and communication.
- Digital marketing - proficiency in utilizing online platforms, social media, and content creation to promote fashion and textile products.

5. *Business and entrepreneurship*:

   - Business planning - ability to develop business plans, financial projections, and strategies for business growth.
   - Supply chain management - knowledge of logistics, procurement, and inventory control to optimize the supply chain.
   - Entrepreneurship - skills in identifying opportunities, innovation, and managing a fashion or textile business.

6. *Sustainability and ethical practices*:

   - Knowledge of sustainable and ethical practices within the fashion and textile industry.
   - Understanding of certifications and standards related to sustainability, such as organic certifications or fair trade.

These skills and classifications provide a general overview of the labor market skills required in the fashion and textile industry in Bulgaria. It's important to note that the specific skills and their relevance may vary depending on the job roles, company size, and sector specialization within the industry.

3.1.3. Identification of the labor skill shortages and imbalances on national level.

Identifying specific labor market skills shortages and imbalances in the fashion and textile industry in Bulgaria requires detailed analysis and access to up-to-date data. While lacking statistical data on this, a number or general trends and potential areas of skills shortages and imbalances in the industry can be identified on the basis of public analytical reports. These stem from the needed skills listed in Section 2. These may vary over time and across different segments of the industry.

1. Technical skills gap
   - as the industry evolves and adopts advanced technologies, there is growing need for workers who are trained in operating computerized machinery, CAD software, and other technical tools.
2. Sustainability and ethical practices
   - with sustainability becomes a greater focus in the industry across the EU, BG inclusive, there could be a shortage of professionals who possess expertise in sustainable practices, circular economy principles, and knowledge of eco-friendly materials and production processes.
3. Digital skills
   - the increasing digitalization of the industry determines a growing demand for digital marketing, e-commerce, social media management, data analytics, CAD, etc. Which is not met at present by the educational system in Bulgaria and the existing VET opportunities. Proficiency in utilizing digital tools and platforms to enhance customer engagement and drive online sales is becoming increasingly important.
4. Business and entrepreneurial skills

- these skills are crucial for managing fashion and textile businesses effectively and navigating the complexities of the market taking into account the multiple new and evolving trends.

3.1.4. Good practices fiches to showcase regional/national policies in the fashion and textile sector

1. *Title of the good practice*: Pirin-tex EOOD
2. *Country:* Bulgaria
3. *Scope:* regional
4. *KPIs:* NA.
5. *Specific area:* fashion and design, innovation, entrepreneurship.
6. *Good practice owner:* a local textile company established in the town of Blagoevgrad, Bulgaria.
7. *Description of the selected initiative*:
   Since 1993, PIRIN-TEX has been running successful business in Bulgaria by producing garments for some of the world-famous fashion brands. The company combines innovation and the latest technologies with traditional manufacturing methods. Its production is supported by IT systems, specially developed by the company, that allow full traceability of every single piece.
   PIRIN-TEX is one of the largest textile companies in the sector and among the biggest employers at regional and national level.
8. *What particular problem this solution is addressing?* The company has made significant investments in different environmental projects and is open to innovation processes and new trends in the sector. It is focused on the continuous re-skilling and up-skilling of its staff and management.
9. *EU priorities focus*: digitalization, circular economy and sustainability, social responsibility.
10. *Reference*: https://www.pirintex.com/

Some other interesting examples of good practices in the fashion and textile industry in Bulgaria:

- A good practice that showcases national policies is the establishment of the **Bulgarian Fashion Association (BFA),** which is a professional organization that aims to promote and support the development of the Bulgarian fashion industry, both domestically and internationally.

The BFA collaborates with various stakeholders, including fashion designers, manufacturers, retailers, and educational institutions, to create a favorable environment for the growth of the fashion and textile sector in Bulgaria. It serves as a platform for networking, knowledge exchange, and advocacy on behalf of the industry. The BFA actively engages with policymakers to shape national policies and initiatives related to the fashion and textile industry. By representing the interests of the sector, the BFA contributes to the formulation of policies that support the industry's growth, address challenges, and create opportunities. Through its initiatives and activities, the BFA promotes the visibility and competitiveness of Bulgarian fashion designers and brands. It organizes fashion shows, exhibitions, and industry events to showcase the work of Bulgarian designers and facilitate business connections. The association also supports educational programs and collaborations to enhance the skills and knowledge of professionals in the industry.

The establishment of the BFA and its collaboration with policymakers exemplifies a good practice in Bulgaria's fashion and textile industry that demonstrates the importance of industry-led organizations in advocating for the sector's interests, fostering collaboration, and influencing national policies to create a conducive environment for growth and innovation.

- Another good practice in the FT sector in Bulgaria that showcases regional or national policy is **the establishment of textile clusters in different regions** of the country. Textile clusters are collaborative

networks that bring together businesses, educational institutions, and other stakeholders within a specific geographic area to foster innovation, competitiveness, and growth in the sector.

One notable example is the **Silk Textile Cluster**, Sofia, specifically focusing on the silkworns agriculture and the silk-based textile. This cluster operates as a hub for knowledge exchange, research, and innovation. It supports the development of new products, technologies, and silk-related manufacturing processes. The cluster facilitates cooperation between businesses and research institutions to enhance the competitiveness and sustainability of the local textile industry.

Through its activities, the Cluster promotes regional policies that support the growth and internationalization of the sector. It actively engages with raising awareness about the industry's potential, highlighting the importance of skills development, and addressing regulatory and infrastructure challenges.

- Promotion of traditional craftsmanship and cultural heritage in textile production - this practice recognizes the rich cultural heritage of Bulgaria and its influence on the country's textile industry.

Many Bulgarian fashion designers and textile manufacturers incorporate traditional craftsmanship techniques, motifs, and materials into their designs. They draw inspiration from Bulgarian folklore, traditional costumes, and traditional textile arts such as embroidery, weaving, and lace-making. By integrating traditional craftsmanship into contemporary fashion and textile production, these designers and manufacturers not only preserve cultural heritage but also create unique and authentic products that have a distinct Bulgarian identity. This practice showcases the importance of valuing and promoting cultural heritage within the fashion and textile industry. It supports local artisans and traditional crafts, providing them with opportunities for economic sustainability and preserving their knowledge and skills for future generations. Additionally, this contributes to the differentiation and branding of Bulgarian products with their specific outlook and spirit in the global market. It adds value to the products, making them desirable to consumers seeking authentical and cultural connections along with unique design elements.

Public and private initiatives targeting traditional craftsmanship, though primarily on local scale at present, such as fashion events, exhibitions, and collaborations with cultural institutions, have enormous potential to scale-up. These initiatives raise awareness, provide platforms for showcasing traditional textile techniques and designs, and foster collaboration between traditional artisans and contemporary designers.

Overall, the promotion of traditional craftsmanship and cultural heritage in the fashion and textile sector in Bulgaria contributes to the promotion of the country's unique cultural identity, supports local artisans, and creates opportunities for innovation and differentiation in the industry.

3.1.5. Strategy for improvement and future trends

1. Innovation and Technology Adoption - the country encourages the adoption of new technologies, such as digital design tools, automation, and smart manufacturing, to improve productivity, quality, and efficiency. The aim is to enhance the industry's competitiveness and position Bulgaria as a hub for innovation in the sector.
2. Sustainability and Circular Economy - efforts are being made to promote sustainable practices, such as the use of eco-friendly materials, waste reduction, and energy efficiency. The country encourages the adoption of circular economy principles, including recycling, upcycling, and responsible supply chain management, to minimize the environmental impact of the industry.
3. Market Access and Internationalization - Bulgaria aims to strengthen the international presence of its fashion and textile sector. The country actively participates in trade fairs, exhibitions, and fashion

events to showcase Bulgarian designers and manufacturers to a global audience. Efforts are made to facilitate market access, expand export opportunities, and attract foreign investments in the sector.

4. Education and Talent Development - vocational training programs, educational initiatives, and collaborations between industry and academia to enhance the skills and knowledge of professionals in the fashion and textile sector. The goal is to nurture talent, foster creativity, and ensure a strong foundation for future growth.

Triggers for change in the employment's skills

There are several triggers of change in the employment skills required in the fashion and textile sector in Bulgaria. These triggers are driven by various factors that influence the industry's dynamics and shape the demand for specific skills and stem from the trends that drive or impact this sector on a global scale.

- Technological Advancements - automation, adoption of advanced manufacturing technologies are changing traditional production processes. As a result, there is an increasing demand for skills related to operating and managing computerized machinery, CAD software, 3D printing, and other digital tools.
- Digital Transformation - it is reshaping consumer behaviour and business models. E-commerce, social media, and digital marketing have become critical for reaching customers and driving sales.
- Globalization and Internationalization - increased international trade, collaborations, and global supply chains require professionals with skills in cross-cultural communication, international business practices, and global market trends. Language proficiency and an understanding of international regulations and standards are also becoming more important.
- Design and Creativity - there is a growing demand for professionals with strong design and creative skills. The ability to create innovative, trend-setting designs, and to understand and interpret consumer tastes and preferences is crucial for success in the industry.

The new business models of the future fashion industry.

- Direct-to-Consumer (D2C) Model
- Sustainable and Ethical Fashion
- Customization and Personalization
- Collaborative and Co-Creation Models
- Online Marketplaces and Platforms

3.1.6. Conclusion

The Bulgarian labor market in the FT sector is currently undergoing significant improvements. The benign environment for job creation is now changing, as the global economic crisis impacts on labor market demand in Bulgaria. Compared to the EU27 averages, activity and employment rates have remained low, and Bulgaria has untapped domestic labor reserves. Bulgarian pupils in school also do not acquire all necessary skills and competencies to compete in a high innovation economy. Continued available vacancies suggest that skills shortages remain a barrier to employment even during the crisis and measures to retrain and up-skill the unemployed and those at risk of lay-off is an important policy direction for the short-term. In light of Bulgaria s demographic decline over the coming decades, medium-term growth and convergence require sustained increases in labor productivity and investments in human capital. Short-term measures during the economic crisis ideally combine efforts to keep workers in employment through temporary publicly subsidized short-working hour schemes as well as the use of unemployment benefits and measures to accelerate transitions from old to new jobs. The economic crisis is an opportune moment to address skills shortages both to tackle unemployment and to help the FT sector recovery in the short-term and to promote the foundation for medium-term economic growth and convergence. Looking at the medium term, with Bulgaria's labor

productivity remaining low in a European comparison, sustained interventions from early childhood to adult education are necessary over the coming years to raise human capital and ensure the increases in labor productivity that Bulgaria needs to accelerate growth and convergence. In satisfying the growing demand for skilled labor and boosting employment, Bulgaria needs to urgently look at promoting the transition of young people from education to the labor market, including through keeping them longer in school and ensuring they earn the skills that are in demand in the labor market as well as promoting part-time employment and internship programs for young people.

GREECE

3.2.1. Situational snapshot of the labor market at national level

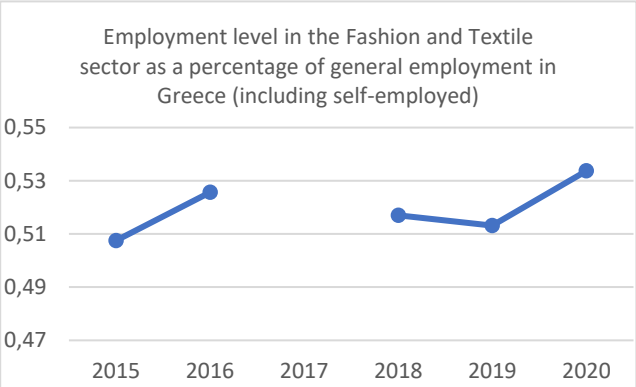
A) Statistical data and analysis.

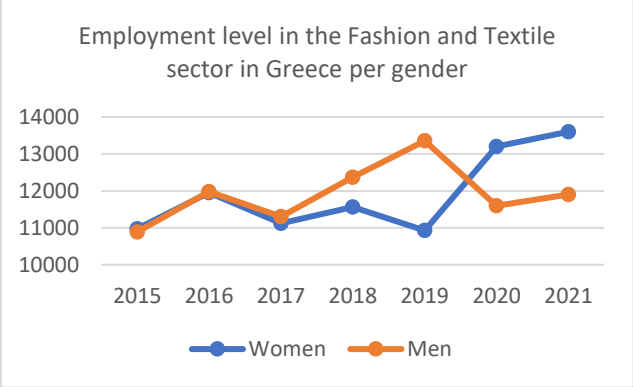
According to national data, we observe that in previous years the number of employees in enterprises related to the fashion and textile sector was lower, and over time it has gradually increased. Based on the available data of the survey conducted by the company, in 2015, 21,859 people were employed in the sector, and with a gradual and steady increase per year we are leading in 2021 to a number of employees that reaches almost 26,000. In contrast, the number of self-employed in the sector seems to be steadily decreasing over time, which reflects the impact of the Greek economic crisis on textile-related businesses. In 2015 there appear to be more than 17 000 self-employed, while by 2020 they have decreased to 14 800. For the year 2017 there are no available data on self-employed people in the sector. The figures therefore show a decrease in the number of self-employed and at the same time an increase in the number of people recruited in the sector. The conclusion we are coming to is that a number of businesses have managed to remain active and grow, while others have not survived the crisis.

While there is no specific data on migration from the textile industry to other sectors in Greece, it's likely that some workers may have moved to other industries due to the challenges facing the textile sector and the government's efforts to promote other sectors. It is common for people to shift from declining or low-paying industries to more lucrative or stable sectors. Greece has been experiencing a shift towards the service sector, which includes industries such as tourism, finance, and healthcare. The Greek government has been promoting these sectors to create employment opportunities and to help reduce the country's unemployment rate. Greece's textile industry has faced challenges for several years due to competition from low-cost countries mainly in Asia and a lack of investment in modernizing production processes. This has resulted in a decline in employment opportunities in the industry.

In general, there are fluctuations in the ratio of men and women employed in the textile sector from 2015 to 2022. The largest fluctuations seem to occur from 2020 onwards, where the number of women seems to show a large increase compared to the previous years, and even exceeds the number of men, which has appeared higher for the previous four years consistently.

Based on the latest data, women continue to hold a higher share of employment than men in the sector. All figures are derived from surveys carried out in the last quarter of each year (based on data from the Hellenic Statistical Authority), so the change in 2020 regarding the rise in the employment rate of women in the sector may be due to the outbreak of the Covid-19 pandemic, but there is no concrete evidence to verify this claim.

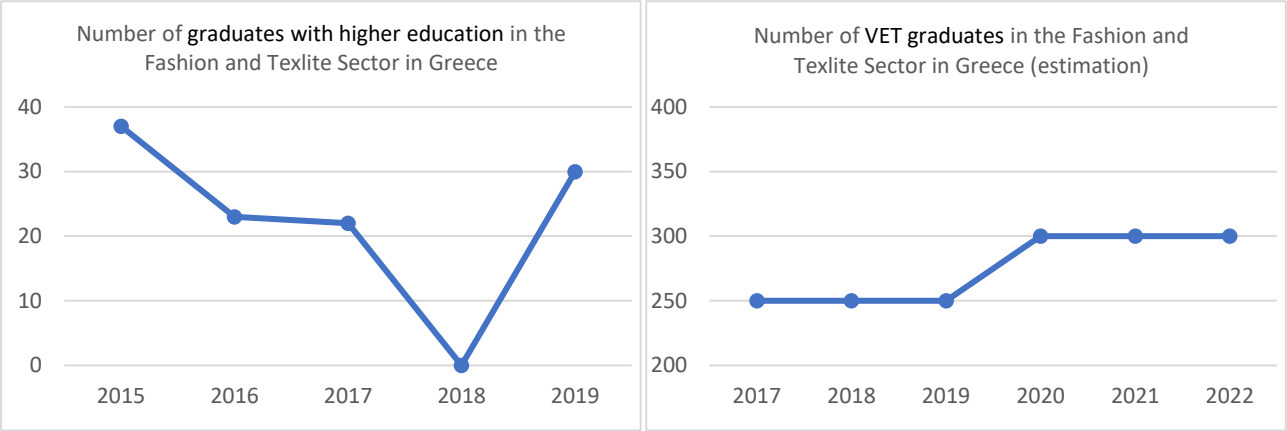




The vast majority of FTS graduates in Greece comes from the VET sector (both private and public). This is due to the fact that there is only one higher education institute (and particularly one Department within the International University of Greece) that offers studies in the field of Fashion Design and Textile Technology, with the number of enrolled students to fluctuate year by year and continuously range below the threshold of open positions that steadily remain to 120. As far as the number of VET graduates is concerned, there are no available data; only estimations can be provided. Private VET institutes do not publish the respective data while public ones provide data with regards to the number of enrollments and not the graduates.

The estimation was made based on AKMI's number of graduates per year (all over Greece) and the total number of the private VET institutes that provide fashion studies in Greece. Given the size and the structure of fashion industry in Greece, the shortages refer to specific sub-sectors or positions and not to the number of graduates. Greece does not locate sewing companies (clothes are sewn in third countries) which creates gaps in employment after graduation while most of the fashion companies in Greece are run by older generation businessmen who do not value the designer's profession and do not motivate their young graduates accordingly.

Most of the companies are in need of pattern technologists - who are the most requested fashion professionals within the industry. Also, based on the fact that many fashion graduates decide not to pursue a career in the fashion industry (considering the working conditions, the long working hours, the imbalance of personal and professional life etc.), those who decide to work in the industry enjoy high employability.



The number of enterprises in Greece, in the Fashion and Textile Sector, slowly decreased from 2014 to 2020, with a mean value of approximately 1.600 enterprises. In 2020, enterprises in the FTS made up the lowest number in Greece, with 1.474 enterprises (Statista, 2022). Greece's FTS saw a decline in revenue in 2020, from the previous year, dropping to 588,1 million EUR. As a result, Greece's turnover fell to its lowest level recorded in 2020, at 588.1 million EUR (Statista, 2023). In 2023, Greece's minimum salary is 831.83 EUR per month. The minimum salary is computed as follows for Greece, where it is paid for 14 months out of the year: (713 EUR x 14) / 12 = 831,83 EUR (Eurostat, 2023). According to Paylab, the typical salary range for those employed in Greece's textile, leather, and apparel industry is between the minimum national salary to 1,605 EUR (highest average; actual maximum salary is greater), including bonuses. The pay for various work positions might vary greatly.

According to a study from 112 clothing companies in Northern Greece (Kampakaki et al, 2022) approximately more than half of the businesses employ 2 to 9 individuals, while one in four have between 10 and 49 workers. Most of them have higher female employee ratios. At least three out of every four workers in around 30% of businesses have a bachelor's degree or higher. At most 1 in 4 businesses employ personnel under the age of 30. At most 1 in 4 businesses employ people over the age of 50. Although many of them also perform production manufacturing, product development and design, quality control, distribution, and other services, the vast majority of them are businesses involved in trade.

B) Main factors affecting the FTS at national level

According to the Hellenic Fashion Industry Association (SEPEE), the government's actions are not particularly transparent to an outsider to gather information, but they acknowledge that doing business in Greece comes with a heavy load of responsibilities. Greece has one of the more difficult business environments in terms of foreign investment, according to the OECD. The business world is very regulated. The fact that the tax and regulatory environment constantly shifting for Greek enterprises is a major challenge.

The bureaucratic and ambiguous succession/ transfer procedures are the main issue that arises during the transition to a new property system. Other issues include the absence of incentives and the high tax burden. The ambiguity and complexity of the Greek institutional framework frequently causes the creation of new companies and the acquisition of the firm being transferred, and it significantly contributes to time delays or suspensive choices for the transfer of a company. Tax and insurance responsibilities, regulatory requirements, succession planning, and funding sources are also main issues of interest. According to a survey conducted under SUCCESS ROAD project, a significant number of businesses, particularly small and

medium-sized ones, lack a plan to forecast and outline the succession strategy. The main reason for the low involvement in succession and transfer-related training activities and individual counseling is the lack of understanding of their significance. It is crucial to focus on the training of successors in a range of areas, including business culture, team management and leadership techniques, personal development, and human resource management (Ministry of Development and Investments, 2021).

There are significant inadequacies and outdated teaching methods in Greek fashion education. We can infer that since there is no longer any public education in fashion, enrolling in private educational institutions is the only option for ambitious students. Additionally, it seems as though all private schools are acting independently and are no longer looking to form alliances or networks for the benefit of networking and collaboration. There are no formal organizations or associations in Greece that deal with the knowledge and skills needed in the fashion industry. Private organizations had previously taken action, but because it was coordinated by a private group or chamber of commerce, the effort was not renewed. This claim can be supported by the fact that the majority of Greece's fashion educational institutions are private, making them recognized but difficult to access due to tuition costs.

The educational resources that are now offered to students are outdated because they do not address the industry's modern needs. The designer's profession is not highly appreciated, and there are many older professionals who do not fully comprehend contemporary trends and requirements. Together with a lack of government support, funding challenges, and the absence of designing and sewing enterprises, these factors inevitably deter many recent graduates from obtaining employment in the field. Therefore, a review of the entire educational plan is deemed required. Since there doesn't seem to be any career follow-up after graduation, students find it challenging to enter the workforce after completing their studies.
For the employee in the modern clothing industry, a wide range of digital qualifications are necessary, in addition to traditional skills, adding the current circumstances. Given the national strategy for digital transformation, ICT knowledge is crucial. This involves having a foundational understanding of ICT, being able to operate and interact with computers, mobile devices, and smart machines, comprehending machine-to-machine communication, and being aware of information system security and data protection. Being able to process and analyze data and information obtained from machines, comprehending visual data and making decisions based on it, having a basic understanding of statistics, being proficient in digital marketing, and using tools like system design, template building, social media, and online retailing are all essential skills in the industry. Professionals in the industry also require interdisciplinary and general knowledge of technology, expertise in the activities and production processes currently in use, the ability to perform maintenance-related equipment activities, and expertise in digital supply chain systems (Kampakaki et al, 2022).

Fashion brands that want to enhance the value of their products, influence customer behavior, and safeguard their investment and goodwill must fully understand the crucial function of **trademarks** as priceless assets in a fiercely competitive global market. Law 4679/2020, which implements Directive (EU) 2015/2436 and harmonizes the national trademark system with Regulation (EU) 2017/1001 on the EU trademark, governs trademarks in Greece. European criteria are followed during the registration process. Owners of the rights may submit an application in hard copy or electronically to the Ministry of Development and Investments' General Secretariat of Commerce and Consumer Protection. Due to Law 4796/2021 and a Joint Ministerial Decision that will be released soon, the Hellenic Industrial Property Organization, which is now under the

direction of the Ministry of Development and Investments, will henceforth serve as the competent authority for trademarks.

The only prerequisite in Greece for a work to be granted **copyright protection** is its originality. Any creative work, no matter how it is expressed, may be protected by copyright. Greek Copyright Law 2121/1993 provides a general list of potential items that may be protected by copyright, which includes works of fine art, including drawings, works of applied art, and three-dimensional works. Ideas (such as business ideas), practices, operational procedures, and expressions of folk tradition are not covered by copyright protection. Obtaining copyright protection is not a formality and is based on both national (Article 6 Paragraph 2 of Law 2121/1993 on Copyright, Related Rights and Cultural Matters) and international law (Article 5 Paragraph 2 International Berne Convention). Therefore, unlike other intangible assets (like trademarks), creator's rights on a work are not recognized by any formal process or with the assistance of any governmental or non-governmental service.

Greece's fashion sector is gradually transforming toward a new ecosystem that values **ecological principles, social responsibility, and ethical methods of production**. Young Greek designers that incorporate the values of justice, openness, and sustainability into the production process are motivated by the Slow Fashion Movement. There is a long list of various eco-labels both at the EU and worldwide levels, some of which are special to the fashion sector (www.ecolabelindex.com/ecolabels/?st=country,gr). These labels exclude the ISO certifications, the EU eco-label, and the organic label. In addition to ISO 9001, which is used by textile producers to reduce operational costs and regulate output quality while preserving customer satisfaction, the textile and apparel sectors can also benefit from ISO 14001 (Environment Management System).

The following amendment has been made to the Greek Law's current transposition of the **EC Waste Directive** (2018/851): New EPR scheme for textiles intended for recycling, reuse, and preparation is introduced in Article 9. According to paragraph 9 of article 2 of law 2939/2001 (A'179), textile producers and/or importers must create, organize, and operate one or more Producer Responsibility Organizations (PROs) by the end of 2023 for all of the products they sell in Greece. The Hellenic Recycling Agency (HRA) will be in charge of regulating EPR for textiles, which will be mandated by the Greek Ministry of Environment and Energy (YPEN). The introduction of EPR for textiles will put the manufacturers in control of how the in-scope textile goods are processed at the end of their useful lifespans (eunomia, 2021).

3.2.2. Defining and classifying labor market skills at the national context.

In all fields of employment, digital skills are unquestionably necessary. For all employees, digital literacy is crucial. People entering or currently employed in the workforce may have more options and higher job stability if they have digital skills. Additionally, lowering the cost of technologies and mastering their application create new prospects for entrepreneurship and self-employment. For successful use of ICT and its applications, every person must exhibit a wide range of complex cognitive, sociological, and emotional skills. According to the latest research, new professional roles integrating ICT and fashion skills are needed, and businesses are still having trouble finding qualified candidates with the necessary skill set (Kampakaki et al, 2022). The ability to adapt and change, decision-making, working in groups, communication and cooperation skills (including digital and through social networks), and a shift in mindset toward lifelong learning are the most important personal skills needed in the industry.

3.2.3. Identification of the labor skill shortages and imbalances on national level.

When it comes to the compatibility of skills with the labor market, Greece falls within the lowest 20% of all nations. Among the nations/economies taking part in the Survey of Adult Skills, the nation has the highest percentage of overskilled workers. In addition, literacy performance among Greek people who are not working is on par with that of their employed counterparts and job seekers. Additionally, Greece is in the bottom 20% of nations for both the frequency and adoption of high-performance workplace practices, which are known to encourage the application of skills in the workplace (OECD, 2019).

In Greece, the transition from education to employment is still difficult and there is a high level of skill mismatch. Although graduates have greater work prospects, vocational education and training are not very popular. The percentage of businesses that offer training and vocational programs to help workers become more skilled in information and communication technologies improved somewhat in 2019 (from 14% to 15%), but it still lags well behind the average for the euro area (25%). Greece's efforts to digitally transform its society and economy continue to face significant challenges, which are detrimental to the nation's growth prospects. In order to support sustainable growth, modernize the Greek economy, and accelerate the recovery of the labor market, it will be necessary to hire competent individuals and improve the connections between education and the labor market (IOBE, 2020).

3.2.4. Good practices fiches to showcase regional/national policies in the fashion and textile sector

1. *Title of the good practice selected:* SOFFA – Social Fashion Factory
2. *Country:* Greece
3. *Scope:* national
4. *KPIs*:

SOFFA has offered vocational training to 77 beneficiaries and has created employment positions for 43 beneficiaries.

5. *Specific area:*

Education and Training and Employment

6. *Good practice owner:* SOFFA is a work integration social cooperative which is owned by its founding members.
7. *Description of the selected initiative:*

SOFFA is an eco-sustainable and circular fashion manufacturing studio which offers job integration to women, victims of human trafficking, of sex gender-based violence, and to refugees, providing vocational training in circular fashion values and zero waste procedures, using recycled, vegan, natural, and plant-based materials that support environmental regrowth. Participants receive vocational training in fashion design and sewing through a program that resembles real-world working situations. Classes last 244 hours, or three months, and are held four days a week for four hours each day. Each class includes students with a range of knowledge and experience, allowing for peer-to-peer mentoring through the partnering learning strategy we use.

8. *What particular problem this solution is addressing?*

SOFFA addresses four main problems that are evident in the worldwide fashion and textile sector. First of all, SOFFA aims to have a social impact, by eliminating modern slavery, providing training and employment to vulnerable groups, supporting the integration of unemployed Greeks, refugees,

women survivors of human trafficking and gender-based violence, etc. SOFFA also addresses climate change, by using sustainable materials and practices in their production. They use recyclable textiles, low-water-use materials, non-chemical dyeing procedures, zero-waste approaches, and upcycling textile waste in their production. They also obtain their resources from small local businesses.

9. EU priorities focus:

In case it is addressing the EU's key priorities such as: digitalization, green transition, circular economy, sustainability, resilience, etc., please add some details here.

SOFFA is in line with the following priorities of the EU:

- Gender equality/ valuing women productivity,
- Sustainability/ both social and environmental, offering ethical working conditions and using materials and practices with minimum carbon footprint,
- Social integration/ offering training and employment to vulnerable groups.

SOFFA aims to achieve the following Sustainable Development Goals of the United Nations:

- Number 5/ Gender Equality,
- Number 8/ Decent Work and Economic Growth,
- Number 9/ Industry, Innovation, and Infrastructure,
- Number 12/ Responsible Consumption and Production,
- Number 13/ Climate action.

10. Reference:

https://www.soffa.gr/

3.2.5. Strategy for improvement and future trends

National Strategies

One of the components of the **National Recovery and Resilience Plan, Greece 2.0**, is to modernize and improve resilience of key economic sectors. Enhancing the growth potential and enabling a long-term recovery of the Union's economy should be the goal of smart, sustainable, and inclusive growth, which includes economic cohesion, employment opportunities, productivity, competitiveness, research, development, and innovation, as well as a well-functioning internal market with strong small and medium enterprises (SMEs). The component is also anticipated to have an impact on the business environment generally through initiatives to digitally alter public administration tools and structures as well as through changes to the legal system, fostering Greek entrepreneurship and luring new strategic investments. In short, these measures will help businesses expand both in terms of size and the adoption of a more export- and growth-focused perspective. A targeted training program in new skills (mild, digital) is being used to improve the education and training of professionals in creative industries, with the goal of strengthening the industry's ability to develop extroversion and networking with significant financial and professional benefits.

The component refers to the strategic development of the Cultural and Creative Industries (CCIs), which has a direct impact on the fashion and textile sector. Students of arts and culture in Greece do not receive sufficient guidance to assist them tailor their skills to the needs of the market. They frequently are unable to build sector-specific skills and competences that would improve their employment possibilities and business sustainability because of a mismatch between their skills and the requirements of the industry. The modernization of the curricula of the higher state art schools is encouraged at the same time in order to meet

European standards and best practices that improve the quality of the degree as well as the education offered.

The general objectives of the National Recovery and Resilience Plan refer to green transition, digital transformation, employment, skills, and social cohesion, as well as private investment and transformation of the economy, which apply to a high degree to the fashion and textile sector in the country.
According to the **General Secretary for Research and Innovation (GSRI)**, the latest priorities (2021) in the creative industries are:
- The creation of methodologies and software for the delivery of new, cutting-edge services or the improvement of already-existing ones employing 5G networking, artificial intelligence (AI) techniques, data management, analysis, and/or visualization, etc.
- Utilizing information and big data management approaches, the creation of marketing promotion applications and, more broadly, decision support for strengthening the competitiveness of the Creative Industries subsector.
- Creation of cutting-edge software or digital platforms
- Creation of cutting-edge software for protecting digital assets
- Creation of tools, techniques, and methodologies to facilitate distributed and remote collaboration in design and networking of independent artists, depending on the application
- Improvement of design, prototyping, and production processes in the clothing/fashion, jewelry, visual communication, industrial design, product design, etc. sectors through the use and development of innovative design methodologies and technologies as well as digital production tools.
- Research and development are being done to lessen the negative effects of pandemics on the cultural industries economy and to safeguard the sustainability and competitiveness of the sector from such consequences.

The new business models of the future fashion industry.

The fashion sector is looking towards new business models like apparel rentals, subscriptions, and resale. With a predicted growth of 15% over the next seven years compared to only 2% growth in traditional retail, the $20 billion worldwide resale sector is gradually acquiring a sizable share of the market. A smaller but no less important sector is the worldwide online clothing rental business, which is expected to develop at a 10% annual rate over the next five years to reach $2 billion by 2023 (GREEK FASHION, April 2018, SEPEE).

The circular economy is currently a continuously evolving strategy in the EU, affecting a number of industries, including the fashion and textile sector. Companies that implement the circular economy seek to conserve natural resources while extending the usable lifespans of the final products or the raw materials that make them by reusing or technically recycling them (GREEK FASHION, January 2017, SEPEE).
Fashion is actively embracing digital technology, with designers choosing to use 3D modeling and digital fabric printing before developing the first sample and online store. The adoption of digital technology is required by these, as well as new fashion trends and requirements for branded and non-branded clothing for manufacturing speed, short runs, quick design changes, and bespoke personalized clothing. (GREEK FASHION, January 2019, SEPEE).

Applications of artificial intelligence in the creation of textile and fashion products show significant potential for the production planning, supplier prediction, sustainability decision-making, and evaluation of clothing fit (Rodriguez et al, 2019). A novel strategy for developing clothing was suggested in a study, which involved

integrating machine learning methods into the processes already in place for the infrastructure. The suggested system should be created in a way that makes it possible for the designer's choices to be automatically modeled. At the same time, it is crucial that it can be utilized easily by end users, or people who are not experts in the field of action planning research (Papachristou et al, 2020).

Based on the evolution of the fashion and textiles sector, in combination with the national, European, and international frameworks, upskilling of professionals in the sector will be essential. Digitalization is already apparent in the sector, though with the raising numbers of e-commerce, digital skills will be essential in the future, both for marketing and communication, and for the use of innovative technologies. Green and sustainability competencies will also play a significant role in the sector. According to the **EU Strategy for Sustainable and Circular Textiles** (EC, 2022), only 13% of the workforce has high-level degrees, thus the textile ecosystem needs a highly qualified workforce to take advantage of the job prospects presented by the digital and green transformation. The industry is having trouble finding smart and competent young people, and a lack of skilled labor is hindering the expansion of SMEs in the textile ecosystem. A lack of green skills affects 40% of businesses, and 55% of European enterprises have trouble hiring ICT positions. Particularly essential are topics like eco-design, fiber creation, inventive textile production, repair, and reuse. To guarantee that the requisite skills are present, initial and ongoing vocational education and training, including apprenticeships, are crucial.

3.2.6. Conclusion

The Fashion and Textile sector in Greece in facing multiple challenges, due globalization, digitalization, skilled employees' shortage, lack of proper education, mismatch of education and the labor market, as well as lack of supportive measures in the sector. The number of employees in the sector have raised the last 5 years, while the number of enterprises has decreased. The sector is currently facing challenges due to competition from low-cost countries, and due to lack of investment in modernizing procedures. The educational opportunities in the sector are limited in Greece, while there is only one higher education institute offering tertiary level education. Most professionals graduate from private educational institutions, which are acting independently, lacking a common strategy for the education in the sector.

The educational materials that are currently available to students are not adequate to cover the labor market needs of the sector, since they do not take into account the needs of the modern industry. Digital literacy and sustainability knowledge are essential in today's global Fashion and Textile industry. Professionals have little to no knowledge in the above fields, which affects the transition from education to employment. The demand of new skills in combination with the lack of education, knowledge, and upskilling opportunities in the sector contribute to the migration of workers from the FTS to other declining or low-paying industries.

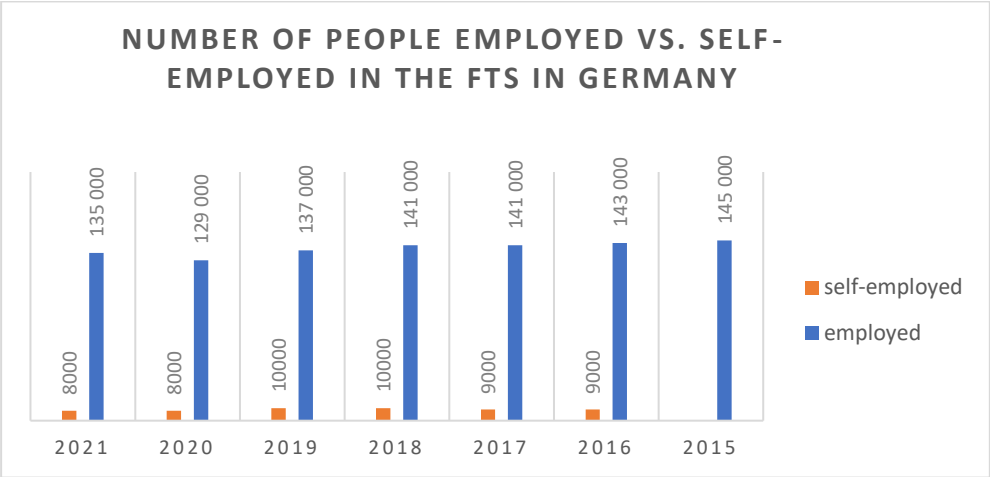
Greece has one of the more difficult business environments, being very regulated, bureaucratic, while the shifting of the tax and regulatory environment makes it more challenging for businesspeople. Based on the challenges of the country, the National Recovery and Resilience Plan aims to impact the broader business environment through measures to digitally transform public administration tools and structures as well as to change the legal system, encouraging Greek entrepreneurship, and drawing new strategic investments. Modernization of the curricula is a high priority, in order to improve the education provided, meet the labor market needs, as well as European standards.

The future of the Fashion and Textile sector in Greece and globally will be based on digitalization and sustainability, while new business models are needed. In the EU, circular economy is now a strategy that is constantly changing and has an impact on many industries, including the fashion and textile industry. Artificial Intelligence and Machine Learning applications in the sector is the future of the fashion industry, aiming at better production planning, predictions, and decision-making. Therefore, for the adaptation of innovation technologies and sustainable practices, reforms in education and employment are essential in the FTS.

GERMANY

3.3.1. Situational snapshot of the labor market at national level

A) Statistical data and analysis.



In Germany all sectors suffer from labor shortages. Unemployment stands at 5.7 % in April 2023. According to an estimate. According to a study conducted by the European Commission, 42.8% of German companies struggled in recruiting qualified staff in 2022. This is both the highest number within the EU-27 and the highest for the history of Germany since the surveys began. As more and more German teenagers enroll in university, vocational pathway places remain unfortunately vacant. Suffice is to know that between 2007 and 2021 the number of apprentices in the textile sector has decreased by more than half.
(Source: Statista https://de.statista.com/statistik/daten/studie/253962/umfrage/auszubildende-in-der-deutschen-textilindustrie/; (https://www.ifo.de/publikationen/2022/aufsatz-zeitschrift/fachkraeftemangel-deutschland-und-europa-historie-status-quo).
According to the Federal Statistical Office of Germany, in 2019, the average gross monthly earnings of full-time employees in the "Clothing, Textiles, Leather, and Footwear" industry (which includes the fashion and textile sectors) was €3,020. This represents an increase from the average gross monthly earnings of €2,913 reported in 2015.
More up to date figures are not available.
It is worth mentioning that in Germany there is a law regulating minimum wages, which entered into force in 2015. The minimum wages are periodically readjusted, currently it amounts at 12,00 € gross per hour.
Since fashion and textile workers are mostly trained workers, it is reasonable to assume that their salary is higher than the minimum wage.
Just to have a reference: The average salary in Germany can vary widely depending on factors such as age, education level, occupation, and location. According to the Federal Statistical Office of Germany, as of 2020, the average gross annual earnings of full-time employees in Germany was €52,739.

Demographic changes and trends impacting the sector.
Germany has been experiencing a demographic winter for several decades. According to data from the Federal Statistical Office of Germany, the country's birth rate has been below the replacement level of 2.1

children per woman since the early 1970s. This means that the population is not reproducing enough to maintain its current size without immigration.

As a result, Germany has an aging population, with a median age of 45.9 years as of 2021, one of the highest in Europe. This has led to concerns about the sustainability of the country's social welfare system, as a shrinking workforce may struggle to support an increasing number of retirees. It has also led to calls for policies to support family formation and immigration to address the demographic challenges facing the country.

The low birth rate is only partially compensated by migration. Migrants come to Germany from a variety of countries, both within the European Union and outside of it. According to the Federal Statistical Office of Germany, in 2020, the top five countries of origin for migrants living in Germany were:

1. Turkey
2. Poland
3. Syria
4. Italy
5. Romania

Moreover, in 2022 over 1 million Ukrainian people fled to Germany as a result of the Russian military invasion.

The educational qualifications of migrants coming to Germany can vary widely depending on factors such as their country of origin, their language skills, and their level of previous education or work experience.

According to the Federal Statistical Office of Germany, in 2020, the most common highest educational qualification held by non-German citizens living in Germany was a vocational qualification (35.7%), followed by a secondary school degree (32.9%). Around 11.6% of non-German citizens held a higher education qualification such as a university degree, while 19.8% had no formal educational qualification.

The most recent data regarding **gender distribution** in the FTS date back to 2015. According to a study by the German Federal Ministry of Economic Affairs and Energy, as of 2015, women made up approximately 70% of the workforce in the fashion and textile sectors in Germany. This trend is consistent with global data, which shows that women are more likely to work in the fashion industry than men.

According to the German Federal Statistical Office (Destatis), there were approximately 40,000 **students enrolled in fashion-related degree programs** in Germany in 2019. This includes both undergraduate and graduate students studying fashion design, fashion management, and other fashion-related programs at universities and other higher education institutions. Furthermore, according to the same source, there were approximately 11,000 students enrolled in textile and clothing-related vocational training programs in Germany in 2020. This includes a range of programs related to fashion, such as clothing technology, fashion design, and textile production.

It's worth noting that this number may not capture all students studying fashion in vocational schools in Germany, as some vocational training programs may not be classified as "textile and clothing-related" or may not be captured in this statistic for other reasons.

In Germany there is no centralized database that lists all the vocational training programs offered by different institutions in the country.

B) Main factors affecting the FTS at national level

Germany is the fourth largest apparel and footwear market in the world and ranks above the European average in terms of per capita expenditure on clothing. However, the industry has faced challenges due to the COVID-19 pandemic, energy crisis, and concerns about climate and energy. As a result, there is a need to

set new parameters, including sustainability development, networking, and digital infrastructure expansion. There is also a call for innovation in areas such as material development from waste, changes in distribution channels (such as second-hand), and changes in the cityscape (such as vacancy management and pop-up stores). Companies must adapt to these changes, including an urgent need for new concepts that focus on sustainability and innovation.

The report on the status of German fashion 2021 highlights that there is a lack of government support and low international visibility: despite the important contribution of the German fashion and textile industry to the labor market and economy the industry receives far less support than other sectors, such as the automo. tive industry. While Germany has international flagships for its fashion industry thanks to its sporting goods manufacturers, the lack of government support leads to a low perception in international comparison. Not even in their own country do German brands have the desired appeal: according to the fashion magazine Vogue, among the 50 most searched for fashion brands in Germany on Lyst there are only five German brands.

3.3.2. Defining and classifying labor market skills at the national context.

The fashion industry is currently undergoing a digital transformation, with the use of digital tools becoming increasingly common. New technologies such as 3D printing and AR/VR are playing a key role in this revolution. Sustainability is also a major focus of the industry, with many companies adhering to the principles of the green deal. However, complying with European regulations and meeting market expectations regarding sustainability has resulted in high production costs and the need for transparency in the supply chain, which has led to concerns about competitiveness among small companies.

In Germany, the VET dual training system is highly regarded by both companies and students. Work-based learning is a constant presence in this system, allowing students to gain experience in the field during their training. However, businesses feel that the necessary digital and green skills required by the market have not yet been integrated into the curricula, and there is a need for upskilling of teachers, trainers, and workers.

The fashion industry faces the challenge of finding a qualified workforce, which is a problem that affects almost all sectors in Germany. Companies are looking to work more closely with institutions and VET providers to attract qualified staff to their company. An online platform connecting the business world with VET providers, students, and job-seekers would be welcomed by entrepreneurs, as it would help address this challenge.

We can conclude that the main skills required are as follows:

- Digital skills: Knowledge in the following fields is highly evaluated by recruiters of the Fashion and textile sector: Internet of Services, 3d printing, Artificial Intelligence, Metaverse and (especially) AR/VR.

- Soft skills: a study carried out by IUBH University of Applied Sciences "Soft Skills in Demand 2021: Skills You Need for Your Future Career" analyzed the soft skills that are important for the recruiters across several sectors, among which the fashion and textile sector. The most demanded soft skills are the following ones: communication, teamwork, problem-solving, creativity, and adaptability

3.3.3. Identification of the labor skill shortages and imbalances on national level.

Germany has a strong VET system, which relies mostly on work-based learning. The students we interviewed for D.2.1. are pretty satisfied with the quality of their VET education and appreciate particularly the possibility

to collect both theoretical and practical experience. Also companies confirm that the skills VET students acquire in their vocational path match all in all what it is required by the labor market.
The main issue seems to be with digital and green skills, which have not yet been integrated in the VET curricula of the fashion and textile education providers.
According to the 2021 report by the Federal Employment Agency (BA), the most in-demand job positions are fashion and clothing designers, textile and fashion technicians, pattern makers, product developers, and specialists in digitalization and sustainability.
The BA also highlights the shortage of specialized workers in the areas of circular economy and sustainability, as well as the need for skills in 3D design and printing, virtual prototyping, and digital marketing.
Moreover, there is a shortage of workers in the production sector of the industry, including seamstresses, tailors, and machine operators. This is partly due to the fact that much of the production has been outsourced to low-wage countries.

3.3.4. Good practices fiches to showcase regional/national policies in the fashion and textile sector

1. *Title of the good practice selected*: Grüner Knopf
2. *Country:* Germany
3. *Scope:* national
4. *KPIs*: NA
5. *Specific area:* business
6. *Good practice owner*:

The good practice is sponsored by the Federal Ministry for Economic Cooperation and Development (BMZ) and managed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

7. *Description of the selected initiative (what, how, why):*

The Green Button is a government seal for sustainable textiles. What makes it special: It is the first seal that systematically checks whether companies take responsibility for respecting both human rights and environmental standards in their supply chains. The Green Button offers orientation when buying socially and ecologically produced textiles. It raises awareness among companies and consumers about sustainable textile production and supply chains. Criteria refer both to the corporate social responsibility strategy of the company and the sustainability measures put in place in the production of textile.

This is a good initiative because it educates the consumer, it gives consumer a trustworthy seal for sustainable fashion and stimulates fashion and textile businesses to comply with sustainability criteria (including the introduction of fair working conditions for employees)

8. *What particular problem this solution is addressing?*

This initiative helps German consumers recognize and reward those brands that are truly all-round sustainable. This means not only reducing pollution from textile production, but also taking into consideration the working conditions of textile workers and the impact on the community as a whole.

9. *EU priorities focus:*

The initiative is definitely compliant with the EU Green Deal and the SDGs

10. *Reference*: https://www.gruener-knopf.de/

3.3.5. Strategy for improvement and future trends

Germany is trying to mitigate the shortage of skill workers with following measures:

1) Attracting foreign skilled workers: Germany has launched several initiatives to attract skilled workers from other countries. This includes the introduction of a "Blue Card" system, which makes it easier for highly qualified professionals from outside the European Union to work and live in Germany.

2) Encouraging women and older workers: Germany is also focusing on encouraging more women and older workers to enter the workforce. This includes initiatives such as flexible working hours and parental leave policies. For example, the German government has encouraged companies to implement age-appropriate work policies, such as job redesign and job rotation, to help older workers remain in the workforce for longer. This also helps to address the shortage of skilled workers and ensure a smooth transition from an aging workforce to a younger one. (SOURCE)

Something that needs to be mentioned is that in Germany, the government works closely with industry stakeholders to early recognise the skill gaps and mitigate the mismatch between what it is taught in the VET system and what the real and current needs of the market are.

A good example is the “Partnership for sustainable textiles – Bündnis für nachhaltige Textilien”, which is a multi-stakeholder initiative that includes representatives from industry, government, civil society organizations, and academia. The aim of the partnership is to promote sustainable practices in the fashion and textile industry, including the development of skills and knowledge related to sustainability. The FEA-VEE project partner VDMD is member of this partnership.

From the research we carried out in our D.2.1. it emerges that digital and green skills will gain in importance in the fashion and textile industry of the near future. According to the interviewed companies in Germany. Internet of Services, 3d printing, Artificial Intelligence, Metaverse and (especially) AR/VR will have a predominant role. Professions like eco-designer or bio-textile engineer will also become more common in the near future.

3.3.6. Conclusion

The main problem facing the German labor market at the moment is undoubtedly the lack of skilled workers. The unemployment rate is among the lowest in Europe. With the baby boomer generation retiring and Germany experiencing a demographic winter for decades, more than half of German companies are struggling to find suitable candidates for their vacancies.

The dual system in Germany is a European best practice: the German government has always worked closely with companies to ensure that VET programmes are adapted to the needs of the labor market. However, green and digital skills seem not yet to have been fully integrated into educational programmes.

The fashion and textile sector has seen a slight decrease in the number of employees in recent years. Vocational training in these sectors has seen a decline in enrolment: today there are about half as many people enrolled in vocational courses in the sector as in 2007.

The German government is implementing various policies to counter the above-mentioned problems, e.g. by favouring the arrival of skilled migrants and promoting the employment of women and older people.

There are also several initiatives to promote the sustainable transition of the textile sector: several public-private partnerships have been set up in this regard in recent years.

ROMANIA

3.4.1. Situational snapshot of the labor market skills at national level

A) Statistical data and analysis

The number of employees estimated by the INS in the restricted monthly survey (except units in the economic sector with less than 4 employees and special services) reached the level of 5.0 million people in February 2020, with about 30 thousand employees over February 2019 level. This net annual flow of jobs has shrunk progressively in recent years and approached in size to that observed in Q1-2014, the maximum being reached in Q4-2016 (+161 thousand).

One of the further mitigating factors the expansion of new jobs is limiting the supply of personnel, this deficit of the labor force being maintained by phenomena such as the migration of Romanians, the rapid creation of jobs by the multinationals presents on the Romanian market, job offer reduced for some trades, limited adaptation of education graduates, with a rate of unemployment among young people of 17.7%. The limitation of the offer on the labor market was also found in a minimum of the unemployment rate recorded at 2.95% in February 2020, corresponding to a number of 256.7 thousand unemployed.

Trends of employment and skills in the sector: structure and share.

The situation of specializations in the textile sector in Romania at the level of 2021 is presented below.

Nr crt	Code	Description	Nr. of companies	Nr of employees	Turnover (millions of RON)	Turnover (millions of Euro)
1	13	Manufacture of textile products: threads, fabrics, home textiles, underwear, knitwear, technical textiles, trimmings, embroideries	1407	28470	5826	1177
2	14	Manufacture of clothing items: jackets, trousers, overcoats, coats, trench coats, skirts, dresses, blouses, sports, protection,	4583	122433	9504	1920
3	15	The leather industry plus fur: shoes, leather goods, fur garments	1130	34846	3480	703
		Total	7120	185749	18810	3800

Average number of employed persons:

In 2022, more than 150,000 people will be employed in the enterprises of the textile - clothing sector, representing 20.4% of the total number of employees in the industry in Romania and 11% of the total number of employees in the textile sector in the EU (cf. EURATEX)

Gender and age distribution:
this branch attracts and employs mainly female labor force - more than 70% (Euratex)

Employment distribution:
33 % in textile companies
67% in clothing companies (Euratex)

Unemployment rate and trends:
INS: Romania ended 2022 with an unemployment rate of 5.6% and about 10,000 fewer unemployed than a year ago. (INS: National Institute for Statistics)
The number of unemployed (aged 15-74 years) estimated for December of 2022 was 461,900 people. This number is increasing compared to the previous month (447,700 people), but down from the same period of the previous year, when Romania had 472,000 unemployed.
By gender, the unemployment rate for men exceeded that of women by 0.7% points (the respective values being 5.9% for men and 5.2% for women). Keep in mind the high level of 22.9% of the youth unemployment rate (15-24 years).
For adults (25-74 years), the unemployment rate was estimated at 4.4% for December 2022 (4.1% for women and 4.6% for men). The number of unemployed persons aged 25-74 years represented 73.6% of the total number of unemployed persons estimated for December 2022.

Remuneration levels in the industry in comparison to country averages:
In apparel industry, the average gross salary is about 3,350 lei per month (740 dollars), which means 2,050 lei (450 dollars) net. This is one of the sectors that pay the lowest salaries in the economy. And yet, compared to Asian countries, Romania is already too expensive.
Statistics from local vet providers and labor agencies demonstrating convertion ratio of vet graduates in fashion technology to employment

Demographic changes and trends focusing the sector:
The figures of the 2022 census, recently released, confirm that Romania is in sharp demographic decline. More than a third of the scale of the phenomenon is given by emigration. Although 15 years have passed since joining the European Union, the exodus continues.
Almost six million Romanian citizens are listed with domicile or residence abroad, most of them first generation immigrants. Many others do not appear in the official registers.
According to the experts consulted by Free Europe, the Romanian state has no strategies either to stop the exodus or to bring back the departed.

Digitalization aspects in HR management and change in skills demand, level of digitalization, identification of existing curricula for digital skills:
Description of the training program:

1. Development of competences regarding the gathering/organizing of business data/ information in order to develop digital databases on raw materials/services/utilities necessary for carrying out the production processes, the products made and their marketing.

2. Use of online data entry and validation applications
3. Using advanced, easily accessible IT applications, benchmarking business data and computer-aided business decisions
4. Use of IT features (including advanced procedures based on AI to predict/anticipate the evolution/volatility of specific costs of supplying the raw materials and utilities and prices associated with markets, in order to efficiently plan for supply, production and sales on the domestic and export market.

Sustainability aspects in HR management and change in skills demand, existing curricula for green skills
"Ensuring a sustainable future of the textile, clothing, leather and footwear industry in South-Eastern Europe" – The future of TCLF in ESE DECLARATION FROM BUCHAREST. Adopted at an international conference, on March 29, 2023
Regulation and policies related to the educational system and entrepreneurship
Synthesis on the basis of D2.1- policy issues that may have been identified by the needs analysis.
You may include data from other sources as well focusing on the industrial strategies and policies at national level, existing linkages, etc.

B) Main factors affecting the FTS at national level

Regarding entrepreneurship education in Romanian schools, some entrepreneurs may say that *"it is completely missing from school*". Entrepreneurship education, studied in high school, in the 10th grade at all profiles and specializations, one hour each week is compulsory in the Romanian educational system since 2004, meaning that most did not study this subject as part of compulsory education in high school. Many different combinations of approaches meant to integrate entrepreneurship education into general education appear within the educational reforms of European countries. Most European countries explicitly recognize entrepreneurship education at least to some degree in primary and secondary education. Unfortunately, this is not the case in Romania.
Statistics at European level indicate that Romania gives little importance to entrepreneurship education, so that less than 10% of those who have initiated and developed a business also have a theoretical basis in this respect, compared to the European average of 30%. The employment rate of the population aged 20-64 in Romania (63.9% in 2013) is lower than the EU average (68.5% in 2012), with the national target being 70% by 2020. [1]
The most extensive and comprehensive education reform project, Educated Romania, initiated and developed by the Presidential Administration, is a Country Project which intends to become the assumed landmark, which Romania needs, in order to improve and modernize Romanian education. The Educated Romania project was included as a commitment into the National Defence Strategy, approved by the Parliament Decision no. 22/2020, which states that *"education systems go through a thorough change process as a result of the impact of demographic evolutions and also of the impact of new technologies, and developing the competences of the young generation and adults who participate in various re-qualification activities will be the key to the future."*[2]

[1] *Becoming Entrepreneur in Romania: the Role of Entrepreneurship Education* - Ioana Gabriela Domilescu, Ioana Gabriela Domilescu
https://rm.reviste.ubbcluj.ro/wp-content/uploads/2021/11/RM_2021_1_Pag_22_Domilescu.pdf
[2] The project Educated Romania (in implementation) - https://eurydice.eacea.ec.europa.eu/national-education-systems/romania/ongoing-reforms-and-policy-developments

3.4.2. Defining and classifying labor market skills at the national context.

The Association of the Sectoral Committee of the Textile Branch COMITEX Garments – Romania was involved through the industry experts in the process of checking the occupational analyses, occupational standards and qualifications of the following occupational standards:

- Head of clothing industry band, COR CODE 311919
- Technician in the leather garments and substitutes industry, COR CODE 311912
- Technician in the textile industry, COR CODE 311916
- Technician in the garment and knitwear industry, COR CODE 311913
- Help foreman weaver, knitter, COR CODE 731818
- Help for foreman spinner, COR CODE 731815
- Textile paver (painter, printer) COR CODE 731825
- Weaver, COR CODE 731816
- Spinner, COR CODE 731814
- Knitwear maker by order, COR CODE 731824
- Textile assembler, COR CODE 821908
- Tailor – clothing maker after order, COR CODE 753201
- Multiplier of tailoring templates, COR CODE 753202
- Confectioner of hats, COR CODE 753103
- Creator of the Clothing, COR CODE 11944
- Preparing pieces of shoes COR CODE 815604
- Shoe finisher COR CODE 826610
- Technician in the leather industry COR CODE 311915
- Garment framing, COR CODE 815305
- Operator of leather clothing manufacturer and replacements, COR CODE 815302
- Operator of industrial confectioner clothing made of fabrics, knitwear, synthetic materials, COR CODE 815301

The answers received from responders provides few information related to the national strategy of education in the field of fashion, because students are not aware of the national strategies. The valid information was received from the teacher (referring to the strategy of the Ministry of Education). At this section, the information relevant for the project consists in the answer related to the support for improving the knowledge of the teachers in order to respond to the challenges in the field of fashion: Specialized courses in fashion technology, fashion management and fashion styling and visual merchandising.

Educational statistics:
*Source: Romanian Agency for Quality Assurance in Higher Education https://www.aracis.ro/
Average number of graduates with higher education in FTS (2015-2022): 137

3.4.3. Identification of the labor skill shortages and imbalances.

The main issue identified by associations, a federation and entrepreneurs in the fashion sector is the lack of skilled workforce. The identified trends in the fashion sector consist in stronger cooperation between universities which have study programs in the field of fashion or textile, the research institutes, clusters and fashion event producers. The cooperation aims at innovative approach of the training modules of the study

programs, the use the existing inventions under protection and the analyses of the textiles used for developing the collections and a high-performance practice in the field of fashion. All the responders agree that the main stakeholders related to educational issues in the field of fashion are the art universities which provides study programs in the field of fashion.

Matching the requirements for graduates' skills and labor market demands

Within the UAD, the fundamental principles underlying the design and implementation of a study program - bachelor's or master's - are the cognitive and professional relevance, respectively the ability of the program to provide its graduates with clear domain knowledge and certain professional skills, depending on the study cycle. Cognitive relevance and professional is measured in relation to the pace of development of knowledge and technology in the field and labor market and skills requirements.

The Fashion Design study program has as its mission the training of specialists in the field of fashion creation and clothing design, in an environment open to the most current developments in the field. The strengths of the study program are multiple partnerships with the professional environment - with various companies, institutions, firms and organizations – and the chances of rapid insertion of graduates on the labor market.

Competences:

Among the essential skills obtained by the graduates of the study program are:

- the creative use of techniques and technologies specific to the field of fashion;
- elaboration, development and preparation of collections, creation of sketches/models adapted to certain one's fashion concepts and lifestyles;
- managing strategies for the development, implementation and promotion of the product/project design.

Career opportunities:

The professional career options of graduates of the study program include:

- fashion designer - stylist
- designer of clothing accessories
- expert designer for Style Offices
- costume designer for theater, film, television
- fashion model designer
- teaching staff in the field of visual education
- employment of the refuges, immigrants.
- post-COVID practices in OHS: N/A

3.4.5. Strategy for improvements and future trends

The following potential development lines that are introduced in the national programs have been identified, namely:

- Development of indigenous raw materials production, priority for financing from public funds in order to establish and develop such enterprises
- Supporting the launching and development of primary sectors of the industry in order to increase the share of specific products on the internal and external market. These include suppliers of raw materials, smelters, spinners, weavers, knitwear, nonwovens, tanneries
- Generic promotion of light industry products worldwide, consolidation of existing markets and penetration of new market niches.

- Orientation of the production towards the realization of complex products as realization and with a higher degree of capitalization, both for the internal market and for export creating and retaining a value added as high as possible on the national component of the value chain. The proposed way of realization is to orient production and sale towards intelligent, multifunctional products with performance characteristics.
- Increasing funding for research and development, nanotechnologies, smart textiles and state-of-the-art refurbishment, digitalization.

Along with the projects to increase the level of tuition and specialization in the textile and fashion design field, 3 main projects will be carried out in Romania in the next period:

- *Circular Economy Project regarding the valorization of waste in the sector textiles, a sector considered the world's second polluter.* Like previous experience: In 1990, the waste was better recovered; there were 4 factories in Romania for valorization of cotton waste and 4-5 factories for the recovery of wool type waste, there being a law which regulates the sorting of textile waste on fibrous compositions and colors from which it is they later produced.
- *Project Rehabilitation of flax and hemp crops* and their processing considering that these are the most man-friendly fibers, having the absorption power of humidity 15 % compared to wool of 12 % and cotton of 8,5 %. They are organic fibers, being 100% processed. One ha of hemp gives off oxygen as much as 10 ha of forest. As an experience: until 1990 in Romania were cultivated over 250,000 ha of flax and 100,000 ha of flaxseed hemp. Today no more 10 ha are cultivated.
- *Making a module of weaving and versatile finish in the industrial park.* Danube which has all the ecological utilities, treatment plant including green energy, necessary for this project. The importance of this project was highlighted during the period pandemic, when Romania was unable to produce protective equipment medical with its own raw material.

Current situation at national level

The textile and clothing value chain is likely to be change after the crisis. Structural changes are likely to accelerate, leading to consolidation subsequent (fewer and larger brands / traders with financial strength to survive the crisis). Larger buyers will work with larger factories, putting therefore, additional pressure on small and medium-sized enterprises.

Suggestions for improvement

To respond to this accelerated trend, small businesses need to diversify into high value-added products with small productions and fast deliveries, further improving efficiency in the production of basic articles. Triggers for change in the employment's skills /internal – organizational, external – political, global trends, recession, digitalization, sustainability/ - external factors shaping the sector, key enablers.

Nearshoring has already been a trend in the clothing sector that it is likely to accelerate post COVID-19. Romania is preparing to benefit from their proximity with the European Union, in order to export more garments. The shift towards nearshoring requires businesses to change operations, thereby accelerating the digital product development process to reduce costs and respond quickly to markets. This would involve moving towards smaller production quantities and developing more links close with suppliers of raw materials and services from the same region.

Market diversification becomes even more important.

Many companies and sectors sell in only a few markets, in many cases to a single customer. These customers are usually located in Europe and the United States, both of which are strong affected by the pandemic. Therefore, companies should reflect the measures that brands and traders have already begun to apply them. While brands and traders expand the supply base, clothing manufacturers will have to broaden the customer base and markets, while exploring non-traditional markets, in China, India, Korea and Japan that might become interesting.

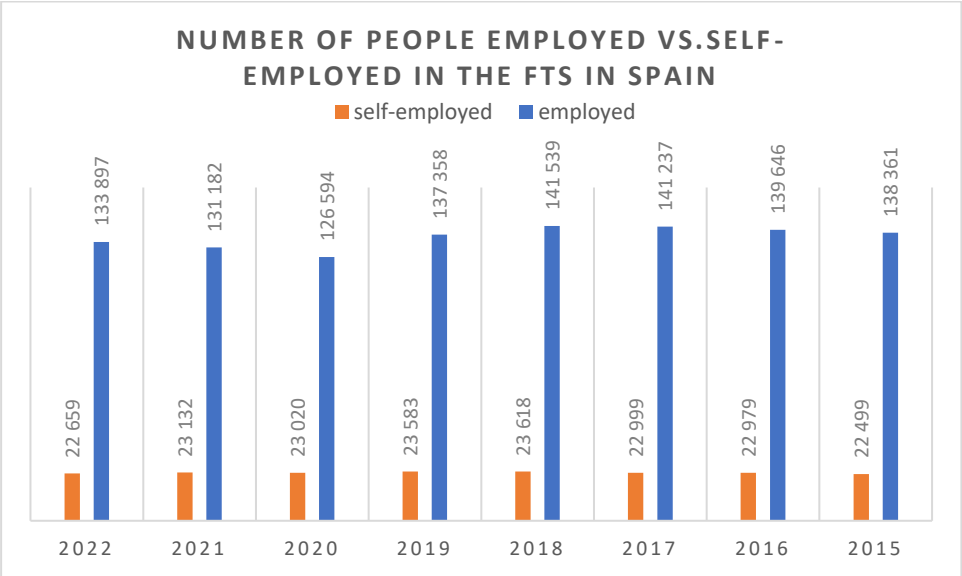
3.4.6. Conclusion.

In conclusion, the situational snapshot of the labor market skills at the national level in Romania reveals several key findings. The number of employees in Romania has experienced a net annual flow of jobs that has progressively decreased in recent years, with limited supply of personnel being a mitigating factor for job expansion. The textile and clothing sector employs a significant number of people, particularly women, but faces challenges such as a lack of skilled workforce and low remuneration levels compared to other industries. The unemployment rate in Romania has seen a slight decrease, but the youth unemployment rate remains high. The education system in Romania lacks a strong emphasis on entrepreneurship education, which contributes to a lower employment rate compared to the European average. Efforts are being made to address these challenges, such as the Educated Romania project and collaboration between universities and industry stakeholders. Furthermore, there is a focus on digitalization and sustainability in HR management, with the need for skills in digital technologies and green practices. The future trends in the industry include the development of indigenous raw materials production, circular economy initiatives, and investment in research and development. Overall, addressing the skill shortages, improving educational programs, and promoting innovation are crucial for the growth and sustainability of the labor market in Romania's fashion sector.

SPAIN

3.5.1. Situational snapshot of the labor market at national level.

A) Statistical data and analysis.



While the Spanish economy is growing in recent years, and therefore the rate of unemployment is being reduced quickly, the number of workers in the FTS industry is not following the same tendence. In fact, for workers employed in companies, the figures are clearly being reduced day after day. On the other hand, self-employed workers seem to be stable in number, not growing nor being reduced.

The leather and footwear have been the fashion sector that reduced its workforce the most. FTS experts in Spain indicates that the tendence of the last years could be change in the next ones though, as consumers seems to be buying more clothes (online, as the number of stores is also being reduced).

While various decades ago, some regions of Spain were very intense in FTS industry, in recent years the percentage of the FTS industry have represented less than 1% of total workers. In addition, there is a clear tendence of reducing the weight of the FTS industry among the overall employment year after year. The reason of this clear reduction seems to be that, while other industries are quickly growing in Spain, especially those related with services of the 3rd sector, the FTS industry it is not growing.

The fact that Spain has a high unemployment rate (12,87%) may indicate that there is no shortage of workers in the FTS, although it could also indicate that salaries are not attractive enough, or other related causes.

Traditionally in Spain, more male has worked in the textile sector, while women in clothing. Nonetheless, it seems the role/distance of each gender in these activities has increased even more since 2016. Also, in the leather and footwear industry there is a more equitable distribution of employment between men and women now than some years ago, but still women represent more workers than men.

However, in the FTS it seems the total number of workers is being reduced faster for men than for women, making bigger (again) the unbalance between men and women.

Remuneration levels in the industry in comparison to country averages

The Spanish general average salary in 2022 was of 28,360 € per year, being 2,363 € per month.

There is no official data of salaries in the FTS industry, although the Spanish trade unions of the textile sector, achieved an agreement with the employers to increase the minimum wage in the FTS sector up to 14,000 € per year in 2021 (being 1,666.66 € per month). In addition, it was agreed that this wage would be risen again a 2% for the years 2022 and 2023, according to Spanish Intertextile Council data. It is worth noting that the minimum interprofessional salary published for 2023 is set at 1,080 euros per month.[3] This is equivalent to 36€ per day and represents an increase of 47% in the last five years.

Dividing the workers by categories, the average salaries[4] in Spain are the following:

- The average salary of a textile operator in Spain is 52,324 € per year.
- The average salary of a textile handler in Spain is 16,722 € per year.
- The average salary of a textile engineer in Spain is 24,544 € per year.
- The average salary of a dressmaker in Spain is 15,848 € per year.
- The average salary of a fashion designer in Spain is 32,829 € per year.
- The average salary of a warehouse worker in Spain is 16,772 € per year.
- The average salary of dependents in Spain is 11,046 € per year.[5]

Demographic changes and trends impacting the sector.

The rate of internal migration in Spain is high. 6.842.202 immigrants are living in Spain nowadays, representing the 14,44% of the total population of the country. On the other side, the Spanish population abroad is 1.489.823 people, representing the 3,14% of the Spaniards.

Spain has a life expectancy of 82.7 years, which is considered one of the highest of the world. The average age of Spanish population is of 43,9 years, while the population under 20 years is only of 19,3%. The tendency in Spain is that the population in working age is being reduced year after year, being only compensated by the immigrant working force.6

The depopulation of Spanish rural areas has been produced in the last decades. These days, 3 out of 4 villages in Spain are reducing their inhabitants, while bigger cities are growing fast. In concrete, the registered population in rural municipalities is of 7,538,929 people in Spain. This represents only the 15.9% of the total population of Spain. The average density of Spanish rural areas is 17.8 inhabitants per km2. Rural-type municipalities occupy 84% of the surface of Spain.7

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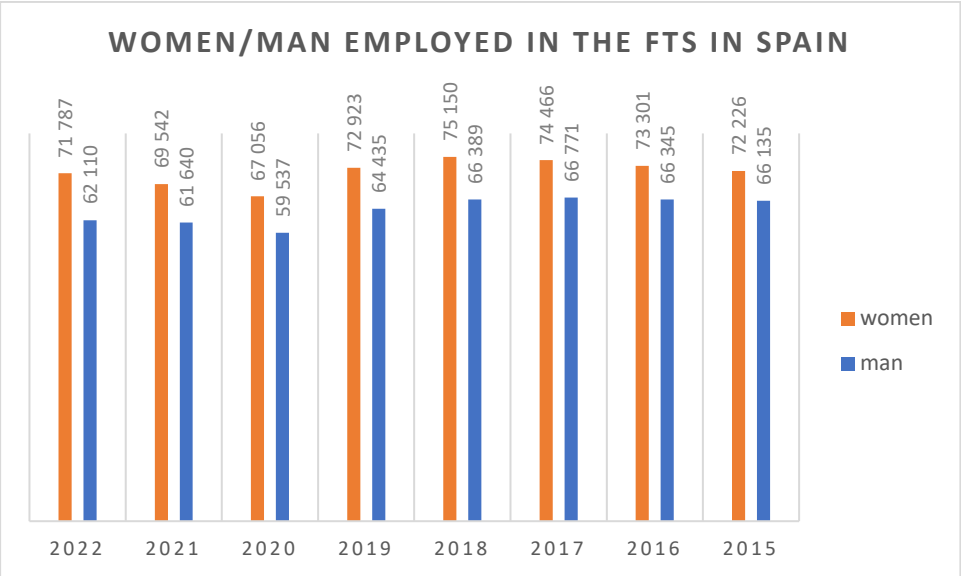
[3] Consulted online on the 27/04/2023 at: https://www.sepe.es/HomeSepe/que-es-el-sepe/comunicacion-institucional/noticias/detalle-noticia.html?folder=/2023/Febrero/&detail=El-salario-minimo-interprofesional-publicado-para-2023-se-establece-en-1080-euros#:~:text=El%20salario%20m%C3%ADnimo%20interprofesional%20publicado%20para%202023%20se%20establece%20en%201.080%20euros,-15%20de%20febrero&text=El%20BOE%20ha%20publicado%20el,los%2015.120%20euros%20brutos%20anuales.

[4] These salaries represent the average amount paid per worker but does not imply that the worker is working full time. For instance, in the case of dependents, the average salary is of 11,046, which is below the minim wage salary, as dependents tends to work in stores less than 40h per week.

[5] Consulted online on the 27/04/2023 at https://es.indeed.com/.

[6] Consulted online on 27/04/2023 at https://datosmacro.expansion.com/.

[7] Consulted online on 27/04/2023 at https://www.mapa.gob.es/es/ministerio/servicios/analisis-y-prospectiva/ayp_demografiaenlapoblacionrural2020_tcm30-583987.pdf



B) Main factors affecting the FTS at national level

Regulation and policies related to the educational system and entrepreneurship

The Vocational education and training in Spain is made up of two systems: Initial VET that depends on the Ministry of Education and on the Regional Administrations and the VET system for employment, linked to the Ministry of Employment and Social Security and also to the Regional Administrations. There are several High Schools where the curricula related to the professional family of textile, clothing, leather and footwear is taught. According to the website of the Ministry of Education there are 9 different qualifications of this professional family (up to EQF level 5). They are taught by 73 High Schools spread across the national geography with the following distribution:

Region	Nº High Schools
Andalucía	13
Aragón	1
Asturias	1
Canarias	6
Cantabria	2
Castilla-La Mancha	2
Castilla-León	4
Cataluña	14
Com. Valenciana	11
Extremadura	1
Galicia	4
La Rioja	1
Madrid	8
Murcia	1
Navarra	1
País Vasco	3

In relation to the training promoted by the Ministry of Labour and transferred to the different Regional Administrations, 33 Professional qualifications of the professional family and 36 training specialties are

offered. All these figures can give an idea that in general, public authorities provide means for updating the knowledge and skills of the sector, but the reality is that the system is very bureaucratic. Keeping the curricula up to date is an arduous task for the sector once they have been officially published by the educational authorities.

Demographic change

In the Demographic change category, as at the European level, the most impactful situation in Spain is the aging of population. It has a direct impact in longer working life, Changing ways of working, Digital skills for society, and Production requirements for special needs.

In relation to Aging workforce, Confederación Sindical de Comisiones Obreras (CC.OO.) trade union handles data from several footwear companies whose employees are 50 years old on average. There are specific subsectors of FTS, like footwear, in which this situation is impacting in an increasing outsourcing of production, since there is a widespread idea that, in order to be competitive, footwear should be produced abroad. The sum of both factors raises the alert: In 10 or 15 years, it is likely that in certain regions most footwear companies will only be devoted to marketing.

The expectation of a longer working life, due to a greater life expectancy, the ageing of the workforce, the implementation of advanced manufacturing and methodologies lead to workers changing and adapting their ways of working during their working lives. It is worth highlighting the systemic digital gap in Spain, as 45% of workers lack digital and computing skills. Considering that the digital gap is highly determined by the age factor, it is another difficulty that older workers must face. However, many positions in the production chain, of a marked manual nature, may be less affected by this digital gap. The impact of Digital skills for society sub-driver is also perceived as higher than the European average by Spanish TFS companies.

It is also relevant to comment on new diseases and health issues and Production requirements for special needs. Health issues affect both sides. On the one hand, workers' health tends to decline with age and, on the other hand, linked with ageing and specific diseases, the need for specialised products increases. It should also be considered that at an older age, more importance is given to the comfort of garments and footwear, contributing to human well-being. Our findings are that the impact of these both aspects is also perceived by Spanish companies as higher than the European average.

Economic and financial aspects

In relation to Economics & Globalisation it is worth highlighting that in Spain most companies are SMEs. Hence, Spanish economy is one of the most dependent on SMEs in all of Europe. Therefore, the TF sector in Spain is an uneven sector in terms of company size. There is a group of some large companies with a large turnover, headed by Inditex or Mango, and the rest are made up of small companies, with a turnover between 25 and 50 million euros, and medium-sized companies, between 50 and 150 million euros. To promote the Spanish fashion industry, the size of Spanish SMEs should be strengthened, fostering the union between them to take advantage of synergies and make them stronger within the fashion sector.

The Spanish TFS industry has a high export potential but rather than talking about New export markets, we should talk about an effort to recover markets, since in 2020 Spanish fashion exports reached a value which was 18.5% less than the previous year, being this the largest decrease to date.

In relation to Destruction of unsold goods the government gives a breathing space to the fashion industry with the law on waste: it is forbidden to destroy surpluses but there will be no 'eco-tax' until 2025. Fashion companies theoretically are not allowed to destroy what they do not sell from 2021 on, but the Government

gives a five-year deadline to force them to create a non-profit organisation to care for the environment through the recycling and eco-design of clothing and footwear in Spain. Directly related to this aspect, there are many R&D projects focused on fostering circularity in the TF Sector, some examples are: the GREENSHOES 4ALL Life project whose aim is to implement, demonstrate and disseminate a Product Environmental Footprint (PEF) methodology for footwear and to develop efficient eco-design, recycling, and manufacturing solutions, to obtain performing shoes with a lower PEF. Other big projects funded by the EC like TRICK applies similar concept in the textile sector. The impact of the destruction of unsold goods is considered of higher relevance than the European average by Spanish companies.

Digitalization aspects in HR management and change in skills demand, level of digitalization/technical skills, identification of existing curricula for digital skills, key competences related to Industry 4.0

The Technological change is a highly valued driver in the sector; in fact, it will constitute, together with A new consumer and Environmental change, the main axis of the strategy, mainly modulated by Values and identities and Demographic change. The impacts of the sub-drivers in Spanish TFS companies are quite similar to the European ones.

Industry 4.0 is firmly advancing in the TFS sector both at academic and industrial level. The industrial future of the sector goes through digitisation and the ecological and sustainable commitment. Therefore, footwear and fashion industries are in a transition towards climate neutrality and digital leadership. We can find two trends in the digital challenge: first, knowing better the customers and their expectations, and second, the digital challenge focused on the optimisation of the processes to achieve efficiency. It does not matter who manufactures more, but who does it more efficiently, with the support of technology. Here is the opportunity to test new business models that allow turning products into services. In short, data will help to improve user experience.

We often talk about the lack of transparency in the world of fashion, but blockchain could change this trend. Blockchain is an immutable data structure whose information is grouped into blocks. Soon this technology will help build a complete and reliable history of each fashion item, to avoid counterfeiting and copyright issues. It will allow a complete traceability throughout the process.

The online channel or e-commerce is expected to contribute between 20% and 23% of the fashion sector's sales in 2023. According to the online fashion report in Spain 2021 fashion purchases in Spain have drastically increased. This brings the country closer to the online sales ratios of other European countries. One of the factors that caused this growth is that 2.7 million people between 16 and 74 years old residing in Spain joined the online fashion purchases in 2020, up to almost 14 million buyers. These changes were drastically accelerated by COVID-19 pandemic. At this point, it should be noted that companies with a higher degree of digitalisation were more resilient when facing the consequences of the pandemic.

The Lack of adequate skills is a challenge to progress in digitalisation, which is not only posing a problem for the companies themselves, but also for workers who in the case of having little or no digital skills - something that also occurs to a greater extent among those with fewer resources in society -, will have even more difficulties in guaranteeing their employability. The lack of digitalisation, therefore, may have a negative impact on workers themselves, and consequently on companies and the economy.

Sustainability aspects in HR management and change in skills demand, existing curricula for green skills.

Environmental change represents the most valued sub-driver category by Spanish companies in 2018 surveys. Following our contact with industry, at the time of preparing this report, the most valued sub-drivers were the Awareness on sustainability & circular economy, Access and costs of resources and Transparency.

The TFS industry in Spain is clearly moving towards a circular economy model based on a better use of raw material, the most efficient use of resources, and reduced environmental impact, as well as the recovery of waste through its transformation into products with greater added value when possible.

In relation to Access and cost of resources, like most European industrial sectors, the TFS industry will continue to be affected by the cost of energy and by mobility restrictions that will affect the reception of components and raw materials from third countries.

Regarding Transparency in the fashion industry, it is the public or client itself that is demanding greater transparency from the industry, and a legal framework according to the circumstances on the part of governments. The public wants to know what the environmental and social conditions of the industry are. In short, they demand more responsible production models (SDG 12).

Greenwashing refers to the bad practices of some companies, which present their products as environmentally friendly, but in fact they are not. The only goal is to clean up their image and not lose or win back customers. It seems that the consumer is learning to identify these attempts to pretend to be sustainable: the consumer is becoming more informed. It is remarkable that Greenwashing and Transparency are negatively related. Greenwashing is part of a false or made-up transparency.

Regarding the Lack of infrastructure for recycling, the Spanish Intertextile Council (CIE), the highest representative body of the textile industry in Spain, pursues negotiations with different entities to define the details of a textile recycling centre. Private companies (including industry leaders in the country), public entities and the social sector are among the interlocutors of this project.

Changes in consumers behaviour

A new consumer is a driver of change that focuses on consumption and demand patterns, contrary to Values & identities, which are more focused on the perception of the TFS industries. As previously mentioned, both drivers modulate the influence of the main axis formed by Technological change, A new consumer and Environmental change.

Online consumption is advancing in Spain's business. In recent years, sales in the Spanish online fashion sector have not stopped growing, despite a 25% drop in fashion sales (due to covid-19). Online fashion sales have increased by 43.6% from 2019 to 2020. According to the international consultancy Kantar Worldpanel in its new edition of the Online Fashion Report in Spain 2020, the weight of e-commerce over total sales in the fashion sector has practically doubled its volume, from 8.8% in 2019 to 15.4% in 2020. The steady rise in the online sales index highlights the importance of e-commerce for this sector today and in the years to come.

High-end & Luxury products may have become a therapy. It is the way to show that you are here, and you are well. Luxury emerges as a demonstration that the financial situation is under control. Although it is a therapeutic act to spend money thinking of oneself and even buying expensive goods as a reward after a period of crisis, only few people can do it regularly and for a long time. However, the taste for luxury is likely to move from the purchase of fashion to the acquisition of well-being services and sustainable services, to take care of oneself.

With the aim of contributing to responsible consumption, the support for local commerce (buy local) is a phenomenon that has emerged in response to the increase of online shopping. One of the arguments to support consumption in the closest environment is to mobilise feelings of closeness to the social and geographical environment. Another argument for this support is the sustainability of local purchases, minimising the environmental impact of individualised transport of small amounts of merchandise, as caused by online shopping.

In 2020, the applications and platforms for buying and selling second-hand products increasingly raised in the lives of consumers. Although they were originally used to search for products that were no longer on the market, vintage, or unique products, now the economic and sustainability factors have promoted and extended their use. The demand for used products has increased by 40% over the last year, its peak demand being 80% during 2020. A study reveals that 90% of Spanish people have bought or sold a product on one of these platforms, and 60% have done so in 2020. Fashion appears in the list of most demanded products. Along the same lines may be the trends of repairing and hand-making. Obviously, these trends can directly affect TFS companies. To counteract this effect, companies must offer quality, attractive, and sustainable products, far from fast fashion. This strategy will also contribute to increasing the useful life of products and reducing their impact in line with the principles of the circular economy.

Fashion brands are the ones that bet the most on influencer marketing, and the importance of influencer opinions and evaluations is remarkable in the decision-making process of purchases. In relation to the type of influencers who impact most on consumers, it seems that micro influencers, compared to macro influencers, are those that affect most consumer behaviour, perhaps because consumers identify more with micro-ones and give them greater credibility.

3.5.2. Defining and classifying labor market skills at the national context.

After work done in D2.1, conducting extensive data gathering and engaging in discussions with various stakeholders including educational institutions, businesses, and policymakers, it is commonly agreed that the fashion and textile industry in Spain is striving to reintegrate into industrial areas where it was previously prominent. The primary objective is to transition towards a sustainable, circular, transparent, and ethical model.

One of the significant challenges faced by the industry is the lack of communication channels between educational stakeholders and the industry's requirements. This issue has resulted in difficulties for businesses in recruiting suitable workers to meet their specific needs. Surprisingly, the main problem does not lie in the disconnection between vocational education and training (VET) providers and the industry itself. Rather, it is the struggle to attract motivated young people to work on particular production lines due to unfavorable working conditions and not so attractive salaries. The industry emphasizes the importance of providing dual training for students; however, they lack experienced workers within their facilities who can guide and support them since the role of a worker is primarily focused on production rather than teaching.

Interviews conducted with industry professionals highlight the significance of incorporating new trends such as sustainability and digitalization within the framework of Industry 4.0. Digital tools and technologies are increasingly being utilized, emphasizing the need for curricula to adapt to these industry changes and equip future professionals with the necessary skills.

The main conclusion drawn from the research is the urgent need to improve communication channels between all stakeholders involved. This improvement is crucial for transitioning from a linear to a circular approach and fostering a more sustainable and ethical fashion and textile industry in Europe.

Additional data and information about the fashion and textile industry in Spain can further enhance the understanding of the sector's challenges and the skills required to address them. Here are some relevant insights:

Sustainability and Circular Economy: The industry is recognizing the importance of adopting sustainable practices and transitioning towards a circular economy. This involves minimizing waste, promoting recycling and upcycling, using environmentally friendly materials, and reducing the industry's carbon footprint. Skills related to sustainable design, eco-friendly production techniques, waste management, and sustainable supply chain management are highly sought after.

Ethical Manufacturing**:** With increasing consumer awareness and demand for ethically produced fashion, the industry in Spain is focusing on ensuring fair labor practices, safe working conditions, and transparency throughout the supply chain. Skills in ethical sourcing, social compliance auditing, responsible purchasing, and supply chain transparency are crucial.

Digitalization and Industry 4.0: The integration of digital technologies is transforming the fashion and textile industry. Skills in data analysis, e-commerce, digital marketing, product lifecycle management (PLM) systems, computer-aided design (CAD), 3D modelling, and virtual prototyping are essential for professionals to thrive in this digital era.

Innovation and Design Thinking: The industry values creative and innovative approaches to product development and design, especially the eco-design, highly in focus in TFS nowadays. Skills in trend forecasting, design thinking, innovation management, and the ability to incorporate new technologies and materials into the design process are highly desirable.

Business and Entrepreneurship: In a rapidly changing industry, business acumen and entrepreneurial skills are crucial for success. Professionals need to have a solid understanding of marketing, finance, supply chain management, and strategic planning. Additionally, skills in brand development, retail management, and e-commerce enable individuals to navigate the evolving business landscape effectively.

Cross-Cultural Competence and Multilingualism: The fashion and textile industry in Spain is globally connected. Being able to communicate effectively across cultures and languages is advantageous for professionals working in international contexts. Proficiency in languages such as English, French, and Mandarin can significantly enhance career prospects.

All the skills above require also of consolidated soft skills in the new recruited employees. Some of these soft skills may be enhanced in the educational period (either secondary, VET or higher):

Creativity and Innovation: The textile and fashion industry values candidates with a natural flair for design, an eye for detail, and the ability to think outside the box. Encouraging employees to come up with new ideas and take calculated risks can lead to breakthroughs in design, production, and supply chain management.

Adaptability and Flexibility: Employees must be able to adapt to new technologies, processes, and ways of working as the industry rapidly evolves. Being able to switch gears quickly, pivot, and work in a fast-paced environment with changing priorities is crucial.

Communication and Collaboration: Effective communication with stakeholders from diverse backgrounds is essential in the fashion and textile industry. Candidates who can communicate well, collaborate with team members, and build strong relationships with clients and partners are highly sought after.

Problem-Solving and Critical Thinking: The industry faces numerous challenges, and employees must be able to identify problems, analyse them, and propose practical solutions. Candidates with strong problem-solving and critical thinking skills are valuable assets.

Attention to Detail and Quality: The industry's reputation is built on quality products and attention to detail. Candidates who possess an eye for detail, are meticulous, and take pride in their work are highly valued.

Time Management and Organization: Employees must be able to manage their time effectively, prioritize tasks, and meet deadlines in the fast-paced fashion and textile industry. Being organized, efficient, and able to multitask is essential.

Emotional Intelligence and Empathy: Working with various stakeholders requires emotional intelligence and empathy. Candidates who can understand and respond to the needs of others are valuable for fostering positive relationships and collaboration.

3.5.3. Identification of the labor skill shortages and imbalances on national level.

Following the statistics of the Spanish Ministry of education[8], when talking about the number of graduates in TFS studies, there is no an imbalance between the graduates at the three different levels (secondary, VET, high education). However, there is a general lack of professionals for industry at all levels, even considering that, in the last three years, the number of graduates has significantly increased (between a 30% and a 60%). This fact is intensified by the fact that new generations have a less corporative-committed behaviour and trend to move with relative frequency between companies.
The balance of graduates per educational level in TFS in the last years is shown in the following table:

Period	% of TFS Graduates secondary studies (basic FP)	% of TFS Graduates, VET level	% of TFS graduates in high studies level.	Increase of total graduates in TFS from last year
2020-2021	12.5%	74.7%	12.9%	52%
2019-2020	16.8%	69.4%	13.8%	-27%
2018-2019	12%	80%	7.8%	15,8%
2017-2018	10%	80.75%	9.2%	14,3%
2016-2017	9.3%	84%	6.7%	14.7%

As explained in annex II- Statistical data, In general, high education graduates represents around 12% of the total, secondary education in FTS graduates represents around 12% and VET graduates around 74%.
The trend is slightly increasing in high education and a brief reduction in percentage for VET; however, the number of students increases consistently in the three categories, specially since 2019, with increases above 30%. The main reason of the increase is the raising interest in population for textile, which has been put in focus due to its impact to sustainability. Young people is aware and committed. The distribution between categories is reasonable considering the difficulties to access to high education (not only economical but in terms of required academic level) and also that in secondary education usually the students do not have a

[8] Estadísticas de la Educación | Ministerio de Educación y Formación Profesional (educacionyfp.gob.es)

clear vocation or special interest in any topic, thus enrolment in FTS is low. Therefore, VET graduates number is high, as a result of the interest in population and higher easiness to access to this academic level.

3.5.4. Good practices fiches to showcase regional/national policies in the fashion and textile sector

1. *Title of the good practice selected:* Reimagine Textile project.
2. *Country*: Spain.
3. *Scope:* regional.
4. *KPIs:* NA.
5. *Specific area*: Innovation and entrepreneurship.
6. *Good practice owner:* consortium lead by local authority.
7. *Description of the selected initiative* (what, how, why):
   This initiative is a is business innovation program leaded by a local authority, to help young companies to develop and grow up while tackling challenges such as digitalization and sustainability.
8. What particular problem this solution is addressing? Helping entrepreneurs or start-ups (up to 5 years of life) in the textile sector who opt for innovation, sustainability or circularity as a competitive advantage in their business model.
9. *EU priorities focus*: digitalization, circular economy and sustainability.
10. *Reference*: https://reimaginetextile.com/serveis/

There are two other interesting initiatives in the metropolitan area of Barcelona in the field of fashion and textile policies:

1. *Reimagine Textile project:* Reimagine Textile is the business innovation program aimed at the Maresme area textile sector promoted by Mataró City Council, the Tecnocampus and Eurecat, within the framework of the Territorial Specialization and Competitiveness Project (PECT)[9] of Mataró Maresme. It intends to help companies of any size (which has less than five years of existence); designers, commercial and organizations; new technical fabric companies, and other agents in the textile sector, by offering them a series of services 100% co-financed by companies, while following these four main goals:

   a) Dissemination and promotion of the territory's capabilities with the aim of consolidating the Maresme area textile sector.
   b) Coping with the demands of the sector for the manufacture of products with high added value and the creation of new specialized jobs.
   c) Incorporation of technology and innovation in the management of SMEs.
   d) Internationalization of innovative companies in the textile sector.

[9] Project co-financed by the European Regional Development Fund of the European Union, the FEDER 2014-2020 program and the Provincial Council of Barcelona. The PECT projects seek to improve the competitiveness of the territory through the specialization and innovation of emerging activity sectors. The projects are part of the RIS3CAT strategy of the Generalitat for research and innovation and specialization in Catalonia.

2. *Coopera textil project*: this is a platform that facilitates the relationship between supply and demand for textile production. This project is the leading platform for professional solutions in the textile sector. It is made up of companies, workshops and professionals that offer answers and quality solutions to the needs of customers throughout the production process. In this way, clothing brands, designers and entrepreneurs will be able to connect with the most suitable suppliers for each demand.
   Cooperatextil, in addition to facilitate the relationship between supply and demand, also offers promotion, visibility and advice services, some of them free of charge, in order to help entrepreneurs.
   It also displays job offers in the field of textiles and fashion in addition to provide Information on training linked to the field of textile and fashion in Catalonia.

3.5.5. Strategy for improvement and future trends

National strategies

In general, the FTS is not much regulated in Spain. This may be due to the fact that its supply chain can include several countries and continents with very different regulations and contexts. The consequence of this is that the sustainability efforts of companies vary widely between them. The majority of implemented initiatives are voluntary nowadays.

Therefore, most of the Spanish binding Legislation in the FTS is largely influenced by those that come from the European Commission, as well as other international agreements and referents.[10] On February 23, 2022, the European Commission published its proposal for a Corporate Sustainability Due Diligence Directive, aimed at achieving the objectives set by the European Green Pact and the Paris Agreement, which will be applied in Spain. In addition, the European Commission has presented the EU Strategy on Sustainable and Circular Textile Products to make textiles more durable, repairable, reusable and recyclable in order to fight against fast fashion, textile waste and the destruction of textile products not sold and ensure that their production is carried out fully respecting labor rights. More legislation is expected to be developed in the coming years.[11]

Furthermore, in the fashion sector in Spain, it was elaborated a “fashion code” by professionals of the sector and a prestigious law firm called Garrigues. The code analyzes the legislative framework that regulates, for example, counterfeiting, the recruitment of personnel, selective distribution, electronic commerce, advertising and even fiscal and labor obligations, among others. In addition, it makes a detailed review of the sectoral regulations, detailing the exceptions that exist in the different branches of fashion: textiles, leather goods, footwear, cosmetics, jewelry, etc. The last section of the document refers to technical safety standards.

[10] Consulted online on the 3/05/2023 at: https://www.gipuzkoa.eus/documents/3767975/25421149/61+%40Sector+textil+Espa%C3%B1a+-+Cast.pdf/4a642aa7-7d50-56d3-9ea1-e2c6683f48ff?t=1659356381785

[11] Consulted online on the 3/05/2023 at: https://www.esterxicota.com/legislacion-sostenibilidad-industria-moda/

Triggers for change in the employment's skills

Technological advances, the influence of the new consumer and the boom of entrepreneurship are building an unprecedented scenario, where there are no longer online barriers and offline, but everything is integrated into the same universe of new opportunities and threats.

The 'slow fashion' movement is beginning to be integrated into the day-to-day life of the consumer, who is increasingly concerned about knowing the origin and traceability of the products they purchase, as well as the ethics of the production processes, and for animal welfare. New brands are emerging, also new projects within already known brands, novelties in materials and even mobile applications to bring sustainable fashion and ethics even closer to the consumer.

In the technological field, the sector is influenced by the main digital transformation trends that the industry is experiencing, which are the following:

1. Automation, personalization, and recommendation
2. M-commerce
3. Big data and fast data
4. The Internet of Things
5. Social networks
6. Cloud - Services in the cloud

In addition, as a result of technological advances, the materials of clothing, shoes or accessories are increasingly resistant and innovative. The integration of technology in clothing produces an increase in possibilities and functionalities, both for brands and for consumers. Also, brand collaborations are happening and they are pursuing common goals, to better tackle changing needs of consumers. To do so, traditional fashion brands are partnering with tech and digital companies, joining forces, to better compete in a rapidly changing and fast-moving environment.[12]

The new business models of the future fashion industry.

Some of the challenges that the Spanish textile sector will have to face in order to respond to the new demands of the market and the new buying habits of consumers could be:

- Sustainability / Circular economy
- Innovation in fabrics and products
- Digital transformation – sales through different channels, internal management of companies...
- Connection with the consumer – through the point of sale, social networks...
- Hybrid points of sale ("phydigital")

For these reasons, the FTS will have to tackle the challenge of implementing sustainable and circular economy new models while trying to keep their products competitive in the markets. For this purpose, communication will be very important, in order to attract consumers that could be tempted for the low prices offered by the sector in other countries that does not follow the same transition to sustainability, digitalization and circular economy.

Therefore, to accomplish this transformation of the FTS successfully, digital workers, sustainable and circular economy experts and marketing professionals will be of much importance.

[12] Consulted online on the 3/05/2023 at: https://reimaginetextile.com/wp-content/uploads/2023/03/REIMAGINE_Benchamark_textil_2020_06_29.pdf

3.5.6. Conclusion

The FTS industry in Spain is robust, although not as much as in the past and it is not currently growing as the overall economy. The number of workers employed in companies is stable (not growing nor decreasing, while the rest of employment is clearly rising, which reduces the overall weight of the FTS in the Spanish economy). Self-employed workers are more present day after day in the FTS in Spain.

The Spanish TFS consists mainly of SMEs. Technological and environmental changes are highly valued, and the industry is striving for a sustainable, circular, transparent, and ethical model. Communication between educational stakeholders and industry requirements is lacking, resulting in difficulties in recruiting suitable workers. Unfavourable working conditions and salaries make it challenging to attract motivated young people to work in the industry. In addition, most of the legislation in the FTS sector in Spain is influenced by European Commission regulations and international agreements.

Spain is experiencing an aging population, leading to a longer working life and changing work patterns. There is a digital gap among workers, with 45% lacking digital and computing skills. The impact of digital skills and advanced manufacturing methods varies across different positions in the production chain.

Spain has a VET system that includes qualifications related to the textile, clothing, leather, and footwear. However, there is a lack of professionals in the industry at all levels, despite an increase in the number of graduates in recent years.

Overall, the FTS industry in Spain is facing challenges related to circular economy transition, employment trends, demographic changes, consumer demands changes and economic factors.

SWEDEN

3.6.1. Situational snapshot of the labor market at national level

A) Statistical data and analysis.

Trends of employment and skills in the sector.

In 2019, the Swedish fashion industry had a revenue of 166 billion SEK. The industry consisted of 13 000 active companies with approximately 47 000 employees in total. The industry is divided into three sub-industries, retail, wholesale and production. Wholesale is the largest sub-industry with regard to revenue, with a total revenue of 91 billion SEK in 2019. Retail on the other hand, has the largest number of employees with approximately 28 700 in 2019. 75 % of the employees are women which is a much higher rate in regard to the rest of the economy.

Despite an increase of companies until 2011 the fashion, textile industry in Sweden has decreased by 164 companies since 2007. The majority of companies are in stores and e-commerce, which has grown to over 200 companies. In 2019, there were approximately 13,150 companies in the industry, 7,150 of these are active in retail and e-commerce, just over 3,300 in wholesale and nearly 2,700 in manufacturing.

The industry also employs a higher percentage of young people compared to the rest of the economy. The turnover of Swedish fashion export was 32 billion SEK in 2020. The industry accounted for 0.8 % of the Swedish GDP in 2019 as well as approximately 1 %, equivalent to 22 billion SEK, of the total tax revenue in Sweden. However the pandemic affected the industry hard in 2020. In total, the clothing trade decreased by over 20 percent and the shoe trade by as much as 30 percent. This as a result of a decreased demand for fashion as well as a higher number of companies that went out of business.

The rise of e-commerce as well as the growing second-hand market has also had great influence on the industry, a development that is expected to continue. Still the greatest share of sales was generated in the retail and wholesale trade. One of Sweden leading companies within retail and wholesale trade is the global company H&M.

H&Ms total sales were SEK 187 billion in 2020, representing 60 percent, of the total Swedish fashion industry.

Level of qualification of the human resource at national

The analysis is that the employees in the retail sector lack competence in general knowledge about textiles and quality. In the wholesale sector there is a demand on general sustainability and circular economy as well as in EU legislation and general textile knowledge.

As a result of less applicants many of the FTS educations on a basic level (high school) has been shut down during the past years.

Remuneration levels in the industry in comparison to country averages

Sweden has no statutory minimum wage. Starting wages are instead determined in collective agreements negotiated by employers' organizations and trade unions. In many collective agreements, the starting salary for people aged 20 or older is roughly SEK 22,000 (approximately 2000 EUR) a month in 2021. The three divisions of the FTS sector in Sweden (production, wholesale and retail) consist of several different professional roles, which all have decent living wages in Sweden.

- Demographic changes and trends impacting the sector.

According to the report Fashion Transformation by TEKO, the FTS industry employes 18% in the ages 16-24 compared to 9% in total. Pls see charts in the Annex II for charts.

B) Main factors affecting the FTS at national level

Sustainability & Digitalization

In Sweden, there is currently no national system that collects textile waste separately from other waste, which means that many used textiles are not handled according to the waste hierarchy. The EU textile waste directive that will become effective in 2025 might have a big impact on the industry forcing companies to think circular in the design process as well as creating opportunities in the end of the product life cycles. The current educations in textile and fashion will need to be adjusted to this new regulation.

https://ec.europa.eu/commission/presscorner/detail/en/QANDA_22_2015

The Swedish fashion industry is advanced with both large scale companies such as H&M, Filippa K etc to smaller national companies. Many work with 3D in sampling, from our contucted interviews. According to Elin Peterson at Nordiska textilakademin the digitalization is heaviest in the production sector.

After the covid-19 pandemic we can see a rapid digitalization within Sweden, the educational sector and many workplaces have gone from physical education, meetings towards a digital, and hybrid one. This have pushed the VET providers to become more advanced in technological pedagogics when framing educational programs and for workplaces to upgrade their digital skills.

Further environmentally friendly materials and sustainable supply chains, with fewer new purchases and more second hand, sharing initiatives, repair services and rentals are the main trends now and onwards. The producer will be much more responsibility for recycling textiles and give conscious consumers full transparency and information. In Sweden we can further see that traditional shopping centers are transformed into meeting places for circular consumption and the concept of a fashion store takes on a whole new meaning. Trend research shows that the textile and fashion industry is facing a sweeping transformation – which completely changes the rules of the game. https://reskills.nu/sa-spas-framtiden-for-textil-och-modeindustrin/

3.6.2. Defining and classifying labor market skills at the national context.

According to Elin Peterson, at Nordiska textilakademin (VET provider) there is a shortage of general knowledge on circular economy, general knowledge of textiles, materials, quality and production and in the coming EU legislation on circular textiles.

3.6.4. Good practices fiches to showcase regional/national policies in the fashion and textile sector

Textile Movement

Textile Movement is an arena for change and movement that drives the circular transformation within textiles & fashion. Textile Movement is a digital platform and a place to network for everyone and anyone engaged in the trancision towards a circular economy within textile and fashion run by the region “Västra götaland” in the west of Sweden with the city of Borås as a natural center.
https://textilemovement.com/

Woolpower

Woolpower is one of few remaining sewing industries in Sweden. They have recently built a new factory in the northern region of Sweden and is employing about 80 new textile workers, to be a total of 200 employees. The problem in Sweden is that the competence in the textile making sector has moved abroad.

– ”Its hard to find good seamstresses. We acted immediately when we understood that refugees are coming from Ukraine, where there is a textile industry”, says Anna Sjöberg on Woolpower.

Nine seamstresses from Ukraine, who quickly entered production, now work two shifts in the factory.

Since the majority of all clothes sold in Sweden are produced in low wages countries this action is a step towards social sustainability. As Sweden has a strong trade union movement the Swedish workers have living wages which is not the case in most production countries.

In a more unstable world this is also an action to make the business more resilient.

https://woolpower.se/en/

Repamera

Repamera is a digitalized mending service. Using your clothes as long as possible and repairing them when they break is a key to the transition to sustainable fashion. Making repair services more accessible is therefore important. Repamera is the company that has digitized and standardized the process and has employed seamstresses locally in Malmö.

https://repamera.se/en

Nudie jeans

Nudie jeans is a Swedish denim brand that runs in the forefront of sustainable fashion. They have named all their stores “Repair shops” and if you buy a pair of Nudie jeans there Is a free mending service included. They are also advocates for using the garments for a longer time, shown in their photos and communication, educationg their customers to take care of their garments and showing not only brand new jeans but also how they look after usage. They are totally transparent of their production chain and pushes for example the need for living wages in the textile sector.

https://www.nudiejeans.com/

Mikrofabriker

Mikrofabriker is a network for micro factories in Sweden. It is run by Science park Borås and right now consist of 19 members, exchanging knowledge and information.

https://scienceparkboras.se/2022/11/mikrofabriker/

3.6.5 Strategy for improvement and future trends

Sweden has had very little textile production since the 60s. The Swedish fashion industry of today is divided into three sub-industries, retail, wholesale and production.

Given the geopolitical situation as well as high awareness of the climate crisis, there is a certain trend to take back production to Sweden or Europe. Several micro factories has started during the past few years. However, according to Elin Peterson at Nordiska textilakademin (VET provider) the brands tend to use the micro factories for experimental projects like remake and repair. There is also a lot of development going on to preserve natural resources like Swedish wool, that is currently burned.

A lot of the research and development in the industry points towards circularity and how to use textile waste as a resource.

The new business models of the future fashion industry.

Since the EU regulation on circular design will be in place by 2035 the companies will need to take the responsibility for the whole product life cycle. This calls for different design methods. We think that the new business models will consist of on demand production, second hand services, styling services and repair services. There will also be renting services and remake services.

This calls for a whole new type of skills for the fashion workers and the design profession will be completely different from today. There will be need for competence within the field of mending and repair, valuation of second-hand garments and recycling as well as new service professions rather than sellers.

According to the report ”Fashion Transformation Svenskt mode - en framtidsbransch” written by The Swedish Fashion Council, Svensk Handel and TEKO there are two distinct ways to move forward. An adaptive approach where the aim is to create circular business models, such as new smart materials, reuse of already existing textiles, rental models and an increased secondary trade. The purpose of this type of investment is that the garments that put on the market must be able to circulate as many times as possible and thus stay on the market for as long as possible to then be recycled. The importance of an extended life cycle is underlined in the report Sustainable Consumer Trends 2021, published by Science Park Borås, where it is found that second-hand garments produce 194 percent lower carbon dioxide emissions than newly produced one’s garment. Extending the life cycle of a garment also has the potential to increase revenue from the garment spread over the lifetime of a garment and are not limited to the point of sale.

The second approach shows a transformative perspective. This is based on one more forward-looking approach that redefines the role of fashion. Fashion in the future will no longer merely be regarded as clothing, but its identity-bearing significance will become major. A clear example of this is digital fashion. Fashion is already digitized today, above all in the gaming industry, which means new services, business and ownership models. Digital fashion offers one new and wider accessibility to clothing, which can generate new revenue streams for the fashion industry. The advantage of digital garments is that they do not involve any production or transport, in comparison to traditional fashion where the production phase today accounts for 80 percent of the industry's climate impact.

3.6.6. Conclusion

With the support of the above, it can be stated that the fashion industry is in a transformation. The consumption that drives the industry forward will not disappear, but we will see a diversification of consumption channels and a redefinition of ownership.
The consumer will, among other things, be offered the opportunity to buy newly produced or second-hand clothing physically or via e-commerce, alternatively fully digital garments. It will also be possible to rent clothes for specific occasions or exchange clothes using various exchange services such as grows.
The skills needed for the future, lies within the field of circular fashion. There is a big demand for a skilled workforce in general textile knowledge and quality as well as in new EU legislation. There will be new and different roles within the industry, focusing on how to close the loop.

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