



**SECTORAL SKILLS STRATEGY
FOR THE EU TCLF INDUSTRIES**

FINAL REPORT

Skills Smart

TCLF 2030

DATE: JUNE 2022



Co-funded by the
Erasmus+ Programme
of the European Union



Skills Smart

TCLF 2030

TITLE: National Skills Strategy: the case for Italy

TASK: WP IV.3 STRATEGY DESIGN FOR EU MEMBER STATE

AUTHOR: PIN SCRL

CONTRIBUTORS

REVIEWED BY: EURATEX

DATE: June 2022

TABLE OF CONTENT

ABBREVIATIONS.....	5
1. INTRODUCTION	6
2. SITUATION AND TRENDS OF THE ITALIAN TCLF INDUSTRIES	8
2.1. TEXTILE, CLOTHING, LEATHER, AND FOOTWEAR INDUSTRIES – TYPE OF PRODUCED GOODS, THEIR VOLUME AND VALUE	8
2.2. COMPANIES IN THE TCLF INDUSTRIES	13
2.3. INVESTMENTS AND INNOVATIONS IN THE TCLF INDUSTRIES IN ITALY	17
2.4. SUSTAINABILITY AND RESOURCE EFFICIENCY	23
3. SITUATION AND TRENDS OF EMPLOYMENT AND SKILLS IN THE ITALIAN TCLF INDUSTRIES.....	24
3.1. SHARE OF THE TCLF IN THE LABOUR FORCE.....	24
3.2. DISTRIBUTION OF THE EMPLOYMENT	26
3.3. GENDER DIMENSION	30
3.4. AGE DISTRIBUTION IN THE TCLF INDUSTRIES	32
3.5. LEVEL OF QUALIFICATIONS AND TYPE OF OCCUPATION (ESCO)	37
3.6. SKILLS SITUATION AND TRENDS.....	42
4. DRIVERS OF CHANGE – ANALYSIS OF THE EXTERNAL FORCES SHAPING THE ITALIAN TCLF INDUSTRIES.....	46
4.1. DRIVERS OF CHANGE – INTRODUCTION	46
4.2. RESULTS OF THE <i>SKILLS 4 SMART TCLF INDUSTRIES 2030</i> SURVEY WITH COMPANIES.....	47
4.3. CURRENT DRIVERS OF CHANGE – THEIR CHARACTERISTIC, MAIN SUB-DRIVERS, AND LEVEL OF INFLUENCE.....	50
4.3.1 DEMOGRAPHIC CHANGE	52
4.3.2 ENVIRONMENTAL CHANGE	53
4.3.3 REGULATIONS & GOVERNANCE.....	56
4.3.4 ECONOMIC & GLOBALISATION.....	57
4.3.5 TECHNOLOGICAL CHANGE	59
4.3.6 A NEW CONSUMER	62
4.3.7 VALUES AND IDENTITIES	65
4.4. COVID-19 IMPACT ON THE TCLF INDUSTRIES	68
4.5. CONCLUSIONS FOR DRIVERS OF CHANGE.....	74
5. SECTORAL SKILLS SCENARIOS FOR THE ITALIAN TCLF INDUSTRIES IN 2030	75
5.1. BUILDING BLOCKS FOR SKILLS STRATEGY DEVELOPMENT.....	75
5.2. FIVE SCENARIOS FOR THE TCLF INDUSTRIES IN 2030.....	76
5.2.1. INTRODUCTION.....	76
5.2.2. A <i>BRAVE NEW WORLD</i> IN ITALY	78

5.2.2.1.	SUMMARY	78
5.2.2.2.	JOBS AND SKILLS IN <i>THE BRAVE NEW WORLD</i> IN ITALY	80
5.2.2.3.	COVID-19 IMPACT ON THE <i>BRAVE NEW WORLD</i> IN ITALY	82
5.2.3.	<i>SELECTIVE LEADERSHIP</i> IN ITALY	83
5.2.3.1.	SUMMARY	83
5.2.3.2.	JOBS AND SKILLS IN THE <i>SELECTIVE LEADERSHIP</i> IN ITALY	85
5.2.3.3.	COVID-19 IMPACT ON THE <i>SELECTIVE LEADERSHIP</i> IN ITALY	87
5.2.4.	<i>RENAISSANCE OF THE CRAFT</i> IN ITALY	88
5.2.4.1.	SUMMARY	88
5.2.4.2.	JOBS AND SKILLS IN THE <i>RENAISSANCE OF THE CRAFT</i> IN ITALY	90
5.2.4.3.	COVID-19 IMPACT ON THE <i>RENAISSANCE OF THE CRAFT</i> IN ITALY	92
5.2.5.	<i>WALLED GARDENS</i> IN ITALY	93
5.2.5.1.	SUMMARY	93
5.2.5.2.	JOBS AND SKILLS IN THE <i>WALLED GARDENS</i> IN ITALY	94
5.2.5.3.	COVID-19 IMPACT ON THE <i>WALLED GARDENS</i> IN ITALY	96
5.2.6.	<i>INDUSTRIAL SUNSET</i> IN ITALY	97
5.2.6.1.	SUMMARY	97
5.2.6.2.	JOBS AND SKILLS IN THE <i>INDUSTRIAL SUNSET</i> IN ITALY	98
5.2.6.3.	COVID-19 IMPACT ON THE <i>INDUSTRIAL SUNSET</i> IN ITALY	100
5.2.7.	PERSPECTIVE ON THE FIVE SCENARIOS IN ITALY	101
6.	DEVELOPMENT AND IMPLEMENTATION OF THE SECTORAL SKILLS STRATEGY AT EUROPEAN, NATIONAL, AND REGIONAL LEVELS	104
6.1.	DEVELOPMENT OF THE SECTORAL SKILLS STRATEGY FOR THE TCLF INDUSTRIES – PROCESS AND KEY ENABLERS	104
6.2.	EUROPEAN AND NATIONAL LEVEL DEVELOPMENTS AS KEY ENABLERS OF THE SKILLS STRATEGY FOR THE TCLF INDUSTRIES	105
6.3.	STRATEGY RECOMMENDATIONS FOR POLICYMAKER, INDUSTRY AND EDUCATION PROVIDER STAKEHOLDERS	108
6.3.1.	<i>BRAVE NEW WORLD</i>	109
6.3.2.	<i>SELECTIVE LEADERSHIP</i>	113
6.3.3.	<i>RENAISSANCE OF THE CRAFT</i>	116
6.3.4.	<i>WALLED GARDENS</i>	119
6.3.5.	<i>INDUSTRIAL SUNSET</i>	122
6.4.	CONCLUSIONS FOR RECOMMENDATIONS	124
7.	CONCLUSIONS	126

Abbreviations

B2B	Business-to-business
B2C	Business-to-consumer
CAD	Computer-aided design
CEC	European Footwear Confederation
CEDEFOP	
COTANCE	Confederation of National Associations of Tanners and Dressers of the European Community
EBA	Everything but Arms
EIT	European Institute of Innovation and Technology
EU	European Union
EURATEX	European Apparel and Textile Confederation
EUROSTAT	European Statistical Office
ERDF	European Regional Development Funds
ESCO	European Skills, Competences, Qualifications and Occupations
GDPR	General Data Protection Regulation
HEI	Higher education institutions
I3	Interregional Innovation Investments
IPR	Intellectual property rights
ISCO	International Standard Classification of Occupations
JTF	Just Transition Fund
MOOC	Massive open online course
R&D	Research and development
REACH	Registration, evaluation, authorisation and restriction of chemicals
REACT-EU	Recovery Assistance for Cohesion and the Territories of Europe
PIE	Policymakers, industry representatives, and education providers
PPE	Personal protective equipment
SME	Small and medium-sized enterprises
STEM	Science, technology, engineering and mathematics
SURE	Support to mitigate Unemployment Risks in an Emergency
TCLF	Textile, clothing, leather and footwear
UN SDGs	United Nations Sustainable Development Goals
WTO	World Trade Organization
VET	Vocational education and training

1. Introduction

In Italy, the textile, clothing, leather and footwear (TCLF) industries, although they have changed greatly in the last 10 years, still play an important role in the entire national manufacturing system. In fact, they represent 10% of national manufacturing, constituting one of the pillars of economic development, with their ability to produce wealth and employment, feed related industries and service activities and contribute to the country's financial, economic and social stability.

This sector is experiencing a profound change across the entire system – from production to the way products are sold, almost nothing is the same as before. The triggering factor of this shock wave has undoubtedly been the web and the digital revolution, which has transformed and is continuously transforming the production processes and ways of operating of companies in this sector. Technologies are changing and are ever closer to automation, which is conquering all production scenarios. For this reason, these four worlds are observing the most recent technological innovations more closely to be able to respond to new needs and satisfy different and increasingly customised needs.

Given that manufacturing companies in the TCLF sector are characterised by widespread entrepreneurship and must consider the new phase of globalisation and technological changes, it is necessary to change the paradigm to fully respond to emerging needs. This challenge concerns all aspects of the life cycle of TCLF companies that want to maintain competitiveness: investing in the digitalisation of production processes, the enhancement of worker productivity, the training in adequate skills and the development of new products and processes.

This means having to rethink the business model starting from the digital lever, introducing important changes within the company culture, processes and organisation. An 'IT Transformation' is therefore necessary, which is limited not only to updating machines but also to improvements in skills and renewal of the tradition of 'Made In Italy'.

These considerations are in contrast with the shared misperception of the four TCLF industries, often considered in Italy as traditional and obsolete. Another factor that increases the problem is the ageing of the labour force. In fact, 1/3 of the workers (33%) are over 50, and the proportion has increased by almost 10% compared to 2010. Therefore, there is also a need to upskill and reskill these workers belonging to the over 50 age group, who possess skills that are obsolete and no longer in step with the times and the National Industry 4.0 Plan. Young people could take over, but they no longer find these sectors attractive.

The Blueprint Skills 4 Smart TCLF Industries 2030 project, launched in 2018, which involves 22 partners (organisations, public institutions, vocational education and training [VET] and representatives of universities and companies) and 9 countries (Belgium, Bulgaria, France, Greece, Italy, Portugal, Poland, Romania and Spain) goes in this direction. On the one hand, the goal is to improve the modernisation and competitiveness of these four sectors; on the other hand, the goal is to identify concrete actions to make them more attractive to young people and to different categories of stakeholders.

The first chapter, 'Situation and trends of the Italian TCLF industries', focuses on the production data and the dimensions of the companies belonging to the TCLF industries, offering an overview of the past and current situation in Italy, characterised especially by a decrease of 9.7% in the number of companies in these 4 sectors, especially in textiles (-18.4%) and clothing (-9.5%). Furthermore, the chapter describes the production and trade values of the TCLF industries, the type of goods produced, the size and numbers of companies in the TCLF sector. Their investments in tangible goods, machinery and equipment, innovation activities and environmental protection are also shown.

The second chapter provides a snapshot of the Italian situation concerning the TCLF labour force and how it is distributed in the various regions. In particular, an analysis is made of the level of qualifications and socio-demographic characteristics of the workers in the TCLF industries, the type of occupations and upcoming trends in skills/occupations.

In the third chapter, we analyse external forces and drivers of change, evaluating their impact at the national level. In addition, in the fourth chapter, the five scenarios (*Renaissance of the Craft, A Brave New World, Selective Leadership, Walled Gardens and Industrial Sunset*) are analysed to examine how they can be adapted in the Italian TCLF industries.

In the last chapter, we examine sectoral skills strategies for TCLF industries in 2030, analysing the process of creating forecasts focused on the future of the industries in 2030 and identifying strategies capable of analysing the current situation in terms of regional/national strategies and projects focusing on unique skills gaps in terms of job needs and skills that industries will face in the next 10 years. Finally, the analysis focuses on recommendations for stakeholders (policymakers, industry representatives and education providers) for each of the five scenarios presented in the previous chapter.

2. Situation and trends of the Italian TCLF industries

The Italian TCLF industries, as well as manufacturing as a whole, have been the protagonists of a profound structural change in recent years. In particular, the number of companies and employees has decreased significantly, with a consequent increase in value added per employee and productivity.

2.1. Textile, clothing, leather and footwear industries – type of produced goods, their volume and value

In Italy, the TCLF industries represent a strategic sector in national manufacturing. They represent about 15.2% of turnover, and they employ 12.5% of the total manufacturing workforce.

According to Istat data, we can illustrate the proportions of the TCLF industries in the Italian manufacturing system, divided into each industry.

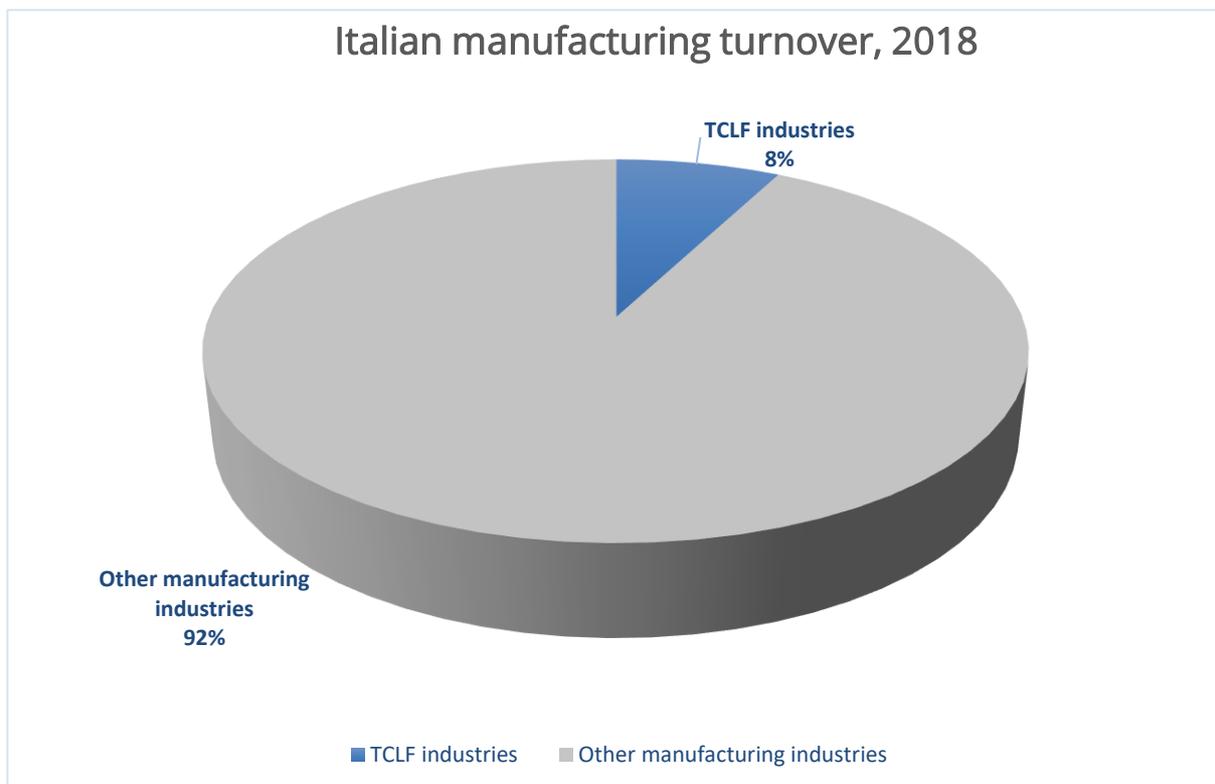


FIGURE 2.1

Source: based on Istat data, 2018

The sector with the highest turnover is clothing (37.8%), followed by the textile sector, which represents one quarter of the turnover produced by TCLF companies, while the leather sector represents 19.1% and footwear 17.3%.



FIGURE 2.2

Source: Based on Istat data, 2018

To provide an overview of the situation of the TCLF industries in Italy, we have drawn up a table (TABLE 2.3) that shows the dimensions of these four sectors in relation to the number of companies, turnover and number of employees.

Overview of the TCLF Industries in Italy, 2014-2018						
	Companies (2018)	vs 2014	Turnover (2018) (million EUR)	vs 2014	Employees (2018)	vs 2014
Textile	12 615	-12.1%	21 193	-0.9%	115 001	-7.6%
Clothing	29 709	+0.9%	31 198	+10.4%	207 050	+4.3%
Leather	7 244	+1.5%	15 721	+6.4%	71 583	+17.1%
Footwear	7 734	-6.8%	14 288	+0.2%	78 324	-2.0%

TABLE 2.3

Source: based on Istat data, 2014–2018

Between 2014 and 2018, as shown in the table, the number of textile companies decreased by 12.1%; they had fewer employees, but their turnover remained more or less unchanged. The number of companies belonging to the clothing sector increased slightly, and they had the greatest increase in turnover amongst all those in the TCLF industries. These companies also increased the number of employees (+4.3%). Leather (excluding footwear) is the sector that had the largest

increase in employees, although there was not a huge increase in the number of companies that generated a 6.4% increase in turnover in this sector.

Finally, the footwear sector, despite a considerable decrease in the number of companies (-6.8%) and employees (-2.0%), achieved an increase in turnover.

In general, Italy is the country that produces the most goods in the TCLF sector in the European Union (EU), reaching 40.8% of the total TCLF production value in 2017, especially the clothing sector, which constituted almost half the European production value (46.0%). In 2018, the companies in the TCLF sector had a total turnover of 81.8 billion EUR, an increase of 6.3% since 2010.

The most important sector, in terms of production value, is clothing, with a turnover of 31.273 million EUR in 2018, which represents around 38.2% of the total Italian production value in the TCLF industries. The textile sector accounted for 25.7% (21.019 million EUR), the leather sector (footwear included) accounted for 18.8% (15.407 million EUR), and footwear represented 17.3% of the whole TCLF sector (14.145 million EUR).

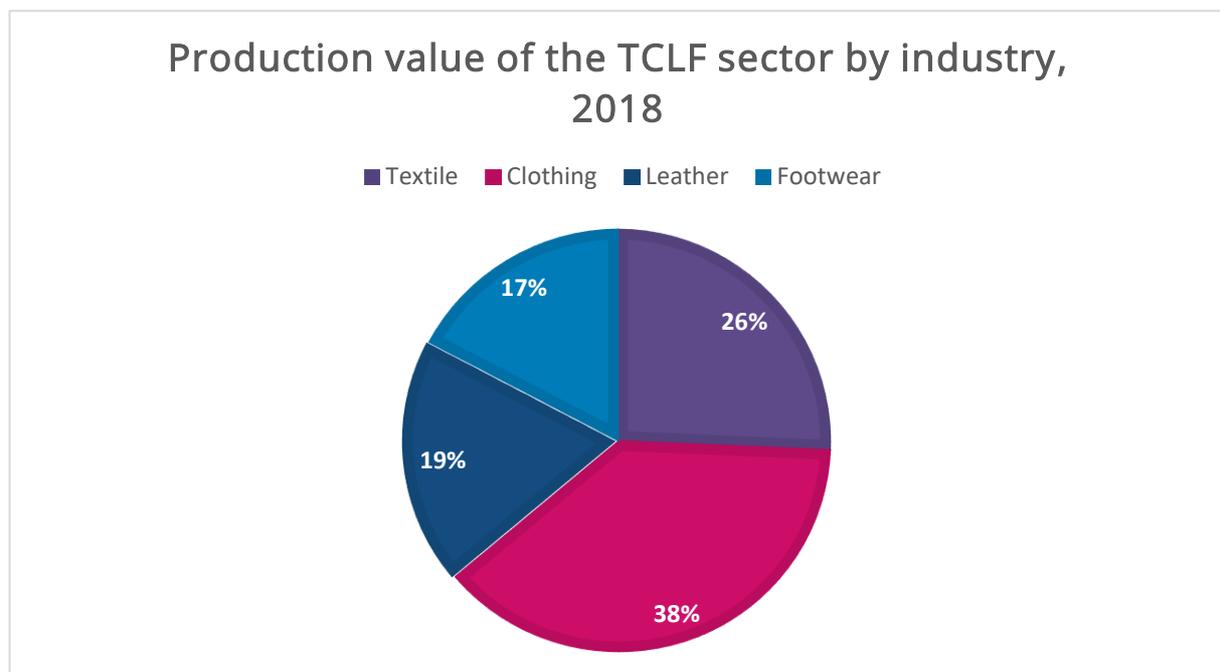


FIGURE 2.4

Source: based on Eurostat data, 2018

The sector with the highest growth in production value is leather, which grew considerably between 2010 and 2018 (+31.6%), similar to the European average +31.9%), increasing from 11.7 billion EUR in 2010 to 15.4 billion EUR in 2018. As for the other sectors, the clothing sector increased by 2.8%, contrary to the European average, which fell by 6.7% from 2010 to 2018. In Italy, the production value of footwear also grew by 17.1%, more than the European average (+14.0%).

The only sector that decreased, as regards production value, was the textile sector, which dropped by 7.9% since 2010, more than the European average, which decreased by 4.8%.

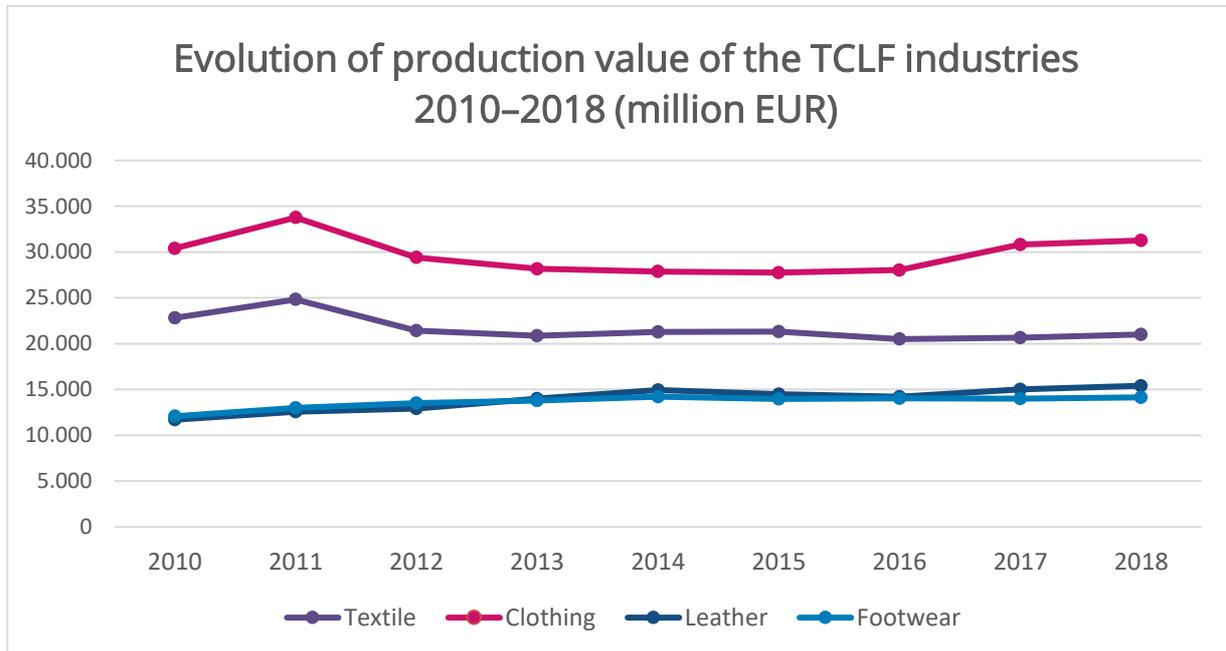


FIGURE 2.5

Source: based on Eurostat data, 2010-2018

If we consider the textile sector, it is notable that most of the production value was created in the sub-sector *manufacture of other textiles*, which has remained almost unchanged in recent years. *Weaving of textiles*, which constitutes 28.6% of the entire textile sector, is the only sub-sector that grew, albeit slightly (+2.6%) since 2010. The sub-sectors *finishing of textiles* and *preparation and spinning of textile fibres* had the greatest decreases in production value between 2010 and 2018, 26.4% and 27.1%, respectively.

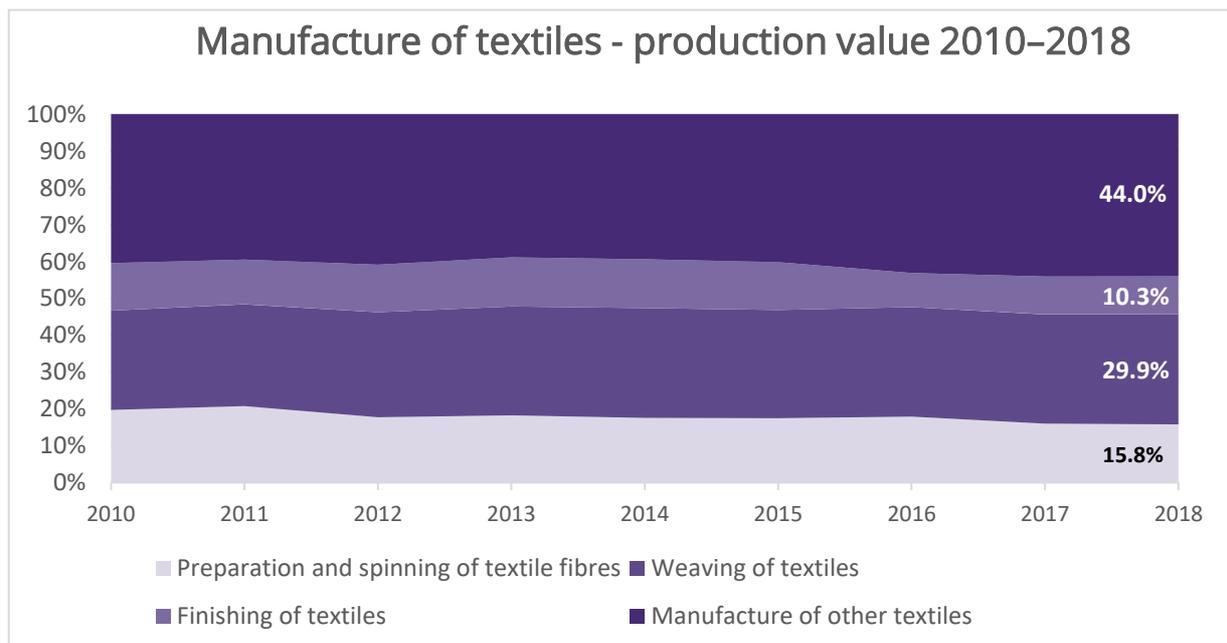


FIGURE 2.6

Source: based on Eurostat data, 2010-2018

As for the production value of the clothing sector, it has grown in recent years, reaching 31 273.4 million EUR, mainly driven by the growth of *manufacture of wearing apparel, except fur apparel* (+4.7% since 2010), which represents 86% of the entire sector.



FIGURE 2.7

Source: based on Eurostat data, 2014–2018

Within the sector, some sub-sectors decreased from 2010 to 2018, such as the *manufacture of articles of fur* (-5.8%) and the *manufacture of knitted and crocheted apparel* (-7.9%).



FIGURE 2.8

Source: based on Istat data, 2010–2018

2.2. Companies in the TCLF industries

According to the latest European Statistical Office (Eurostat) and Istat data, there were 57 302 companies working in the TCLF industry in Italy in 2018, a decrease of 10.7% compared to 2010 and a greater decrease than the European average (-2.7%).

In Europe, the overall picture of the number of companies in the TCLF industries is very varied. Some countries have shown enormous growth compared to 2010, such as Lithuania (+81.5%), Latvia (+49.3%) and the Netherlands (+46.4%), while the number of companies has significantly decreased in other countries, such as Greece (-53.9%) and Croatia (-37.4%). Other countries, however, have remained rather stable, such as Poland, Portugal and Bulgaria.

Number of companies in the T LCF industries (2010–2017)			
COUNTRIES	2010	2017	Percentage change (2010 vs 2017)
Italy	64 165	57 946	-9.7%
Poland	21 411	21 035	-1.8%
Spain	20 671	19 518	-5.6%
France	15 885	18 013	+13.4%
Czechia	13 267	15 896	+19.8%
Portugal	15 641	15 596	-0.3%
United Kingdom	7 857	8 717	+10.9%
Romania	7 551	7 954	+5.3%
Germany	7 805	7 434	-4.8%
Greece	13 274	6 118	-53.9%
Bulgaria	5 584	5 599	+0.3%
Slovakia	6 123	5 508	-10.0%
Netherlands	3 639	5 326	+46.4%
Hungary	5 186	4 700	-9.4%
Sweden	4 728	4 579	-3.2%
Lithuania	2 358	4 280	+81.5%
Belgium	2 232	2 060	-7.7%
Latvia	1 334	1 992	+49.3%
Finland	2 141	1 732	-19.1%
Norway	1 296	1 541	+18.9%
Croatia	2 372	1 485	-37.4%
Austria	1 510	1 444	-4.4%
Bosnia and Herzegovina	0	1 263	Not available
North Macedonia	0	1 222	Not available
Slovenia	1 376	1 213	-11.8%

Estonia	599	923	+54.1%
Ireland	770	894	+6.1%
Denmark	792	725	-8.5%
Switzerland	746	632	-15.3%
Cyprus	388	292	-24.7%
Iceland	0	116	Not available
Malta	74	46	-37.8%
Luxembourg	35	29	-17.1%

TABLE 2.9

Source: based on Eurostat data, 2010-2017

In Italy, most companies in the TCLF industries belong to the clothing sector (52%), while almost a quarter belong to the textile sector (22%); footwear and leather (13%) companies both have lower numbers.

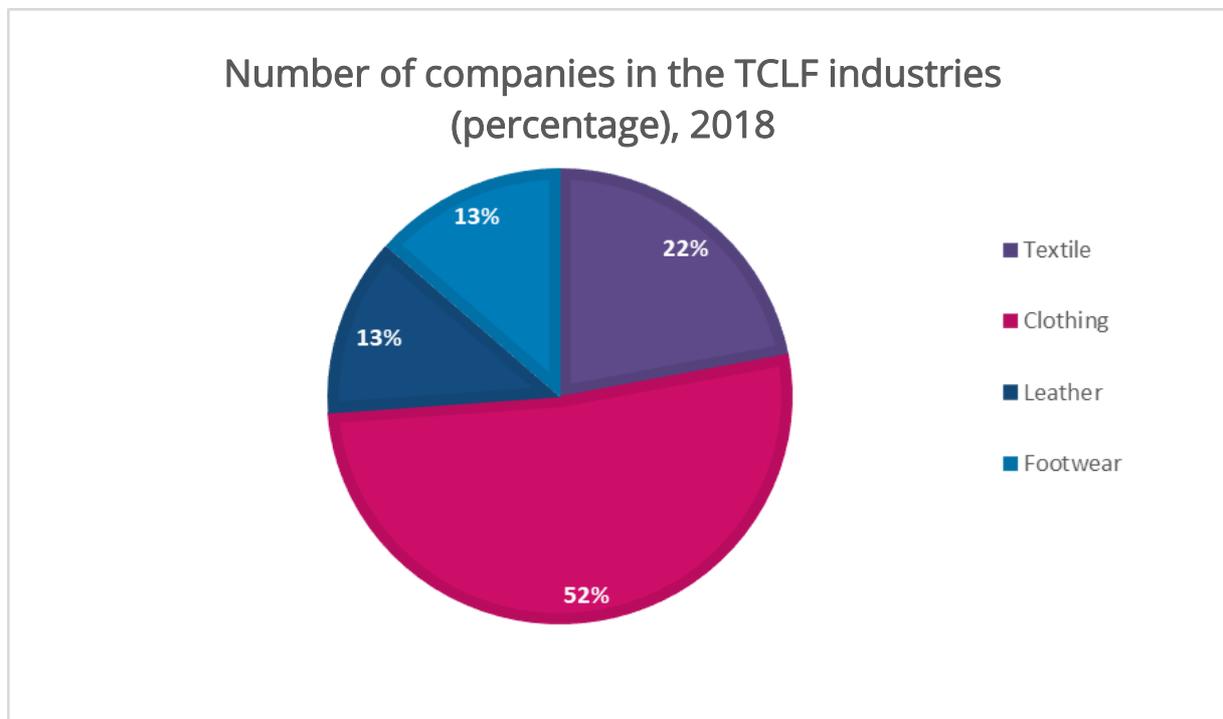


FIGURE 2.10

Source: based on Eurostat data, 2018

The number of companies in the TCLF industries decreased between 2010 and 2018, especially those belonging to the textile sector, which fell by 23.6%, while the number of textile companies in Europe remains almost unchanged.

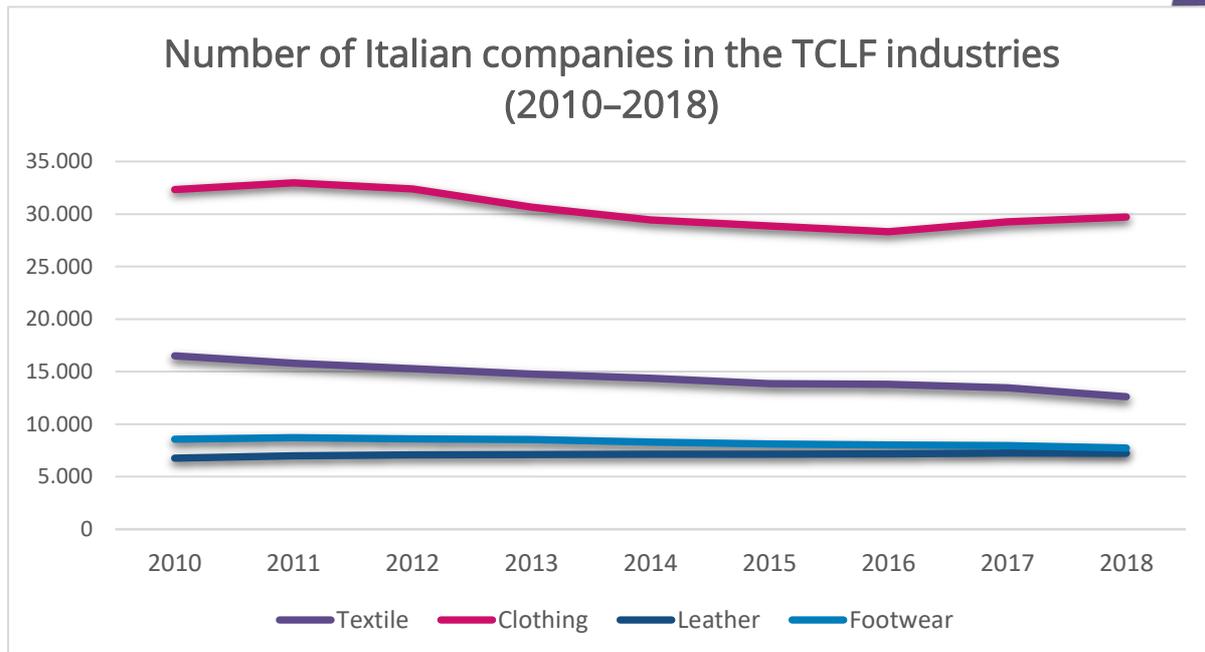


FIGURE 2.11

Source: based on Istat data, 2018

From 2010 to 2018, the greatest drop in the number of textile companies was in those belonging to the *preparation and spinning of textile fibres* sub-sector (-31.2%) and the *weaving of textiles* sub-sector (-26.5%), while those belonging to the *finishing of textiles* dropped by 21.2%.

According to Eurostat data, the number of clothing companies also fell by 8.1% compared to 2010 (a greater decrease than the European average of 5.7%), although in 2018 there was a slight increase of 1.6% compared to 2017. It is important to highlight that the companies belonging to the *manufacture of underwear* sub-sector almost halved compared to 2010 (-47.7%), while the number of companies in the sub-sectors *manufacture of knitted and crocheted apparel* (-37.6%) and *manufacture of workwear* (-26.3%) also decreased significantly. The only clothing sub-sector where the number of companies increased was *manufacture of other outerwear* (+ 11.5%).

In Italy, in general, companies in the leather sector have grown steadily in recent years, reaching 7 244 in 2018, an increase of 7.0% compared to 2010. In this sector, there are two contrasting situations: the number of companies belonging to the *tanning and dressing of leather; dressing and dyeing of fur* sub-sector decreased by 8.5%, while the number of companies in the *manufacture of luggage, handbags and the like, saddlery and harness* sub-sector increased by 13.3%.

The number of footwear sector companies grew until 2012 and then steadily declined over the years to 7 734 in 2018, a decrease of 9.8% compared to 2010.

In 2018, 81.3% of companies in the TCLF sectors in Italy were micro-enterprises, employing 0–9 persons, a lower percentage than the European average, which stood at 84.9%. This is because in Italy there are more small and medium-sized enterprises (SMEs) (18.5%) than in the general European economic fabric. In terms of size, there are only 132 large Italian TCLF companies, which constitute only 0.2% of the total companies in the TCLF industries.

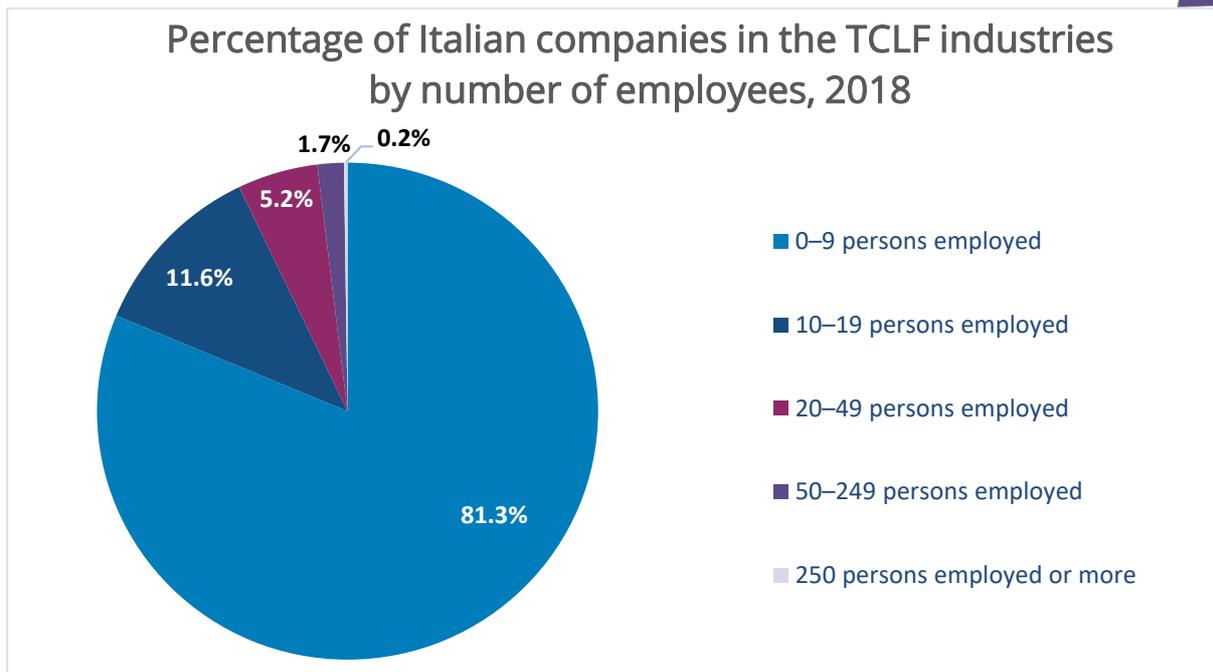


FIGURE 2.12

Source: based on Istat data, 2018

The percentage of micro-enterprises employing 0-9 persons is higher in the clothing sector (84.0%) than in other types of companies in the TCLF sector, while that of small enterprises from 10-19 persons employed is higher in the leather sector (13.5%), the percentage of enterprises employing 20-49 persons is highest in the footwear sector (7.6%), while the highest percentage of medium-sized enterprises employing 50-249 persons is in the textile sector (2.7%).

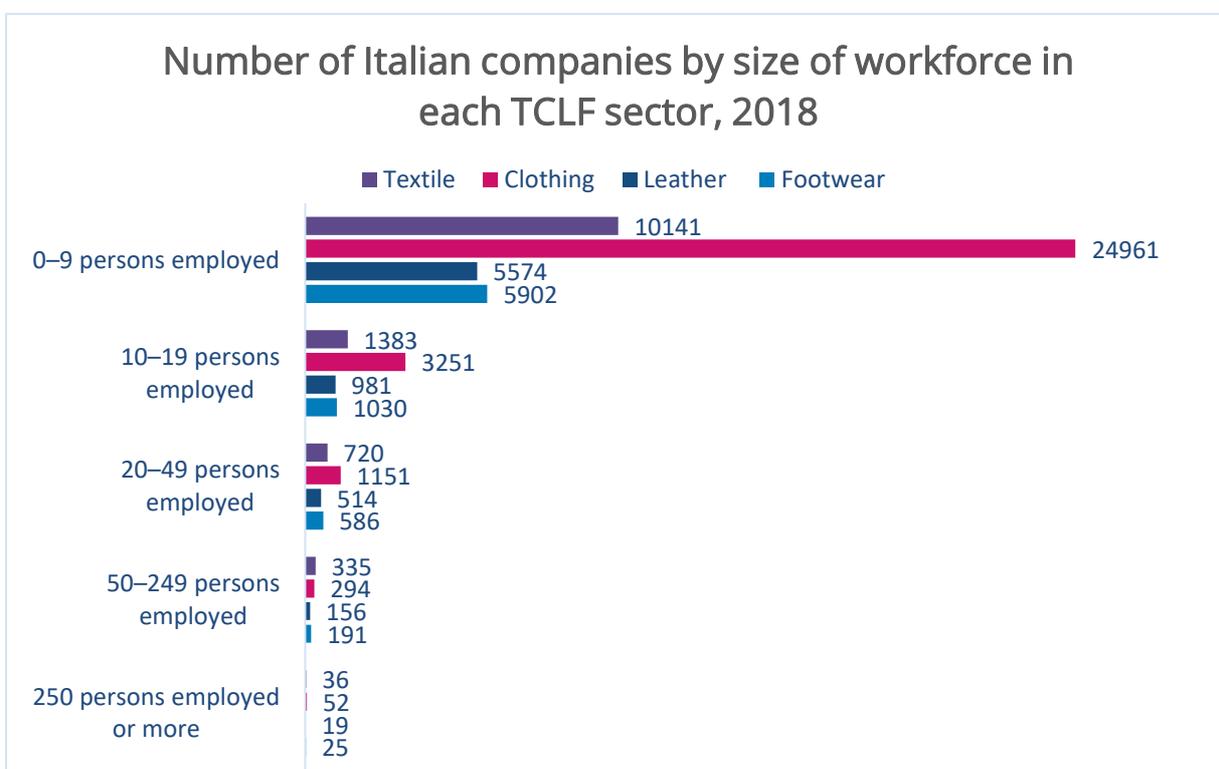


FIGURE 2.13

Source: based on Istat data, 2018

Since 2010, the number of micro-enterprises (employing 0–9 persons) has decreased, showing only a slight increase in 2017 before falling again in 2018.

Small companies (employing 10–19 persons) decreased until 2015, grew in 2016 and reached 6 645 in 2018, which is a higher number than in the three-year period 2013–2015, even if lower than in 2010.

Companies employing 20–49 persons have had a very slow decline over the years, showing a decrease of 7.7% in 2018 compared to 2010. Instead, medium and large companies show a fairly stable trend, with slight fluctuations between 2010 and 2018. As can be seen in the following graph, despite a reduction in the number of enterprises, micro- and small enterprises are the most prevalent in the TCLF industries.

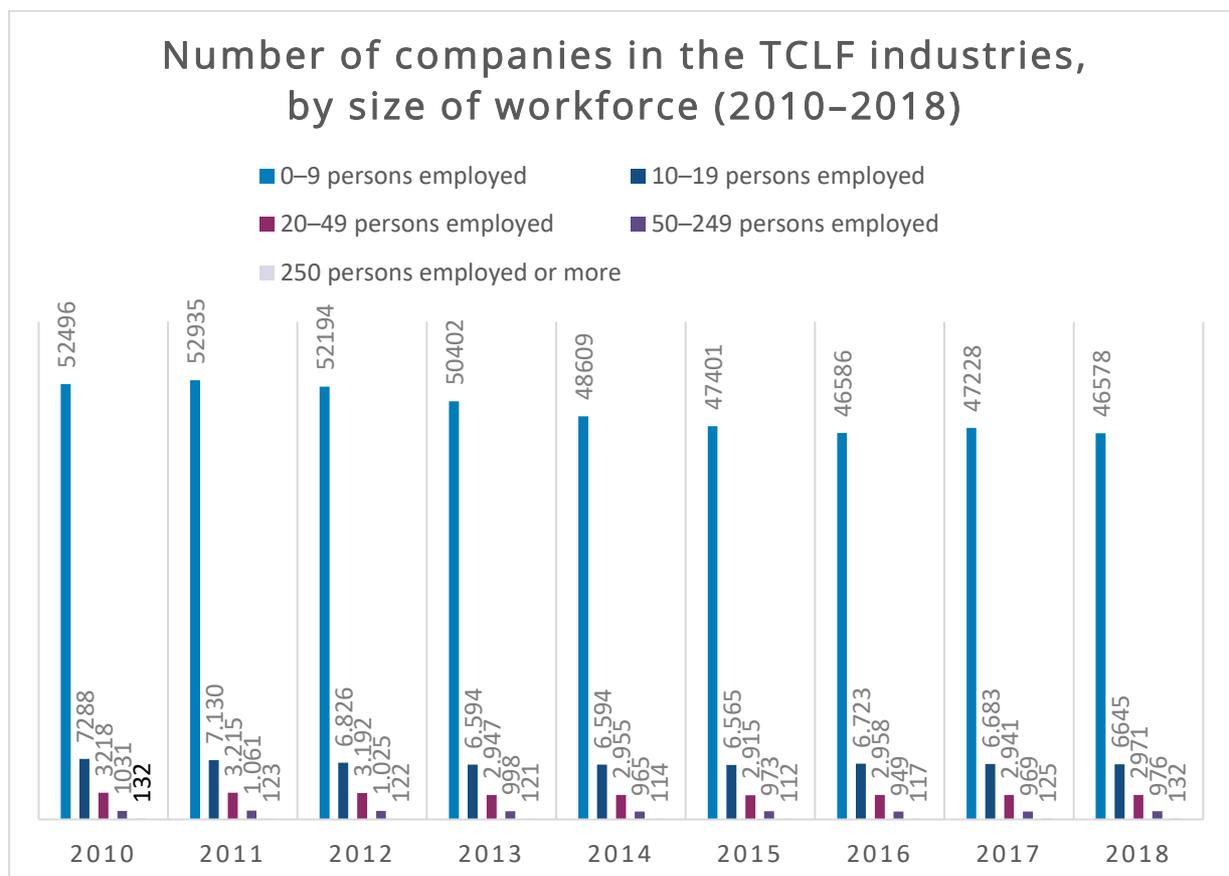


FIGURE 2.14

Source: based on Istat data, 2018

2.3. Investment and innovation in the TCLF industries in Italy

The analysis continues with a study of the data regarding gross investments in tangible goods, which Eurostat defines as investment during the reference period in all tangible goods, including new and existing tangible capital goods, whether bought from third parties or produced for a company's own use, and having a useful life of more than one year, including non-produced tangible goods, such as land.

From 2010 to 2018, companies belonging to the TCLF sector increasingly invested in tangible goods, with the exception of two slight decreases in 2013 and 2016. Italian companies in the TCLF sector invested 15 711 million EUR in tangible goods, a figure significantly higher than all other European countries.

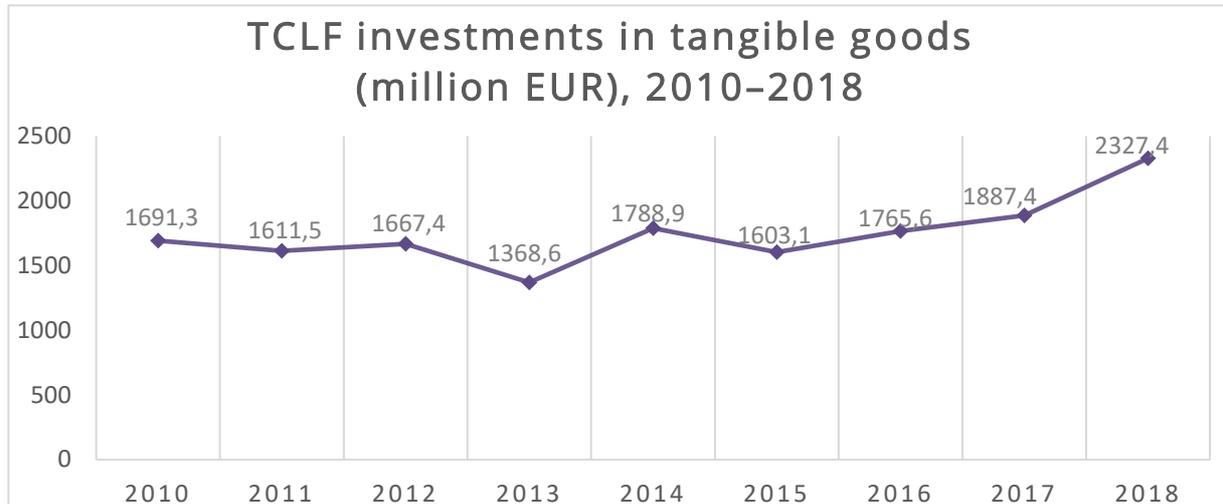


FIGURE 2.15

Source: based on Eurostat and Istat data, 2018

From 2010 to 2018, investments grew by 37.6%, constituting a significant proportion of the total investments in TCLF in Europe. Furthermore, in 2018, investments in tangible goods in the TCLF sector represented 6% of the total investments in the Italian manufacturing industry.

It is clear that the largest investments, considering the largest number of companies, were made in the clothing sector, although it is quite an anomaly at a European level, where the companies that invested more in tangible goods belonged to the textile sector.

In Italy, these investments, on the part of the textile companies, represented 38% of the total investments in the TCLF sector.

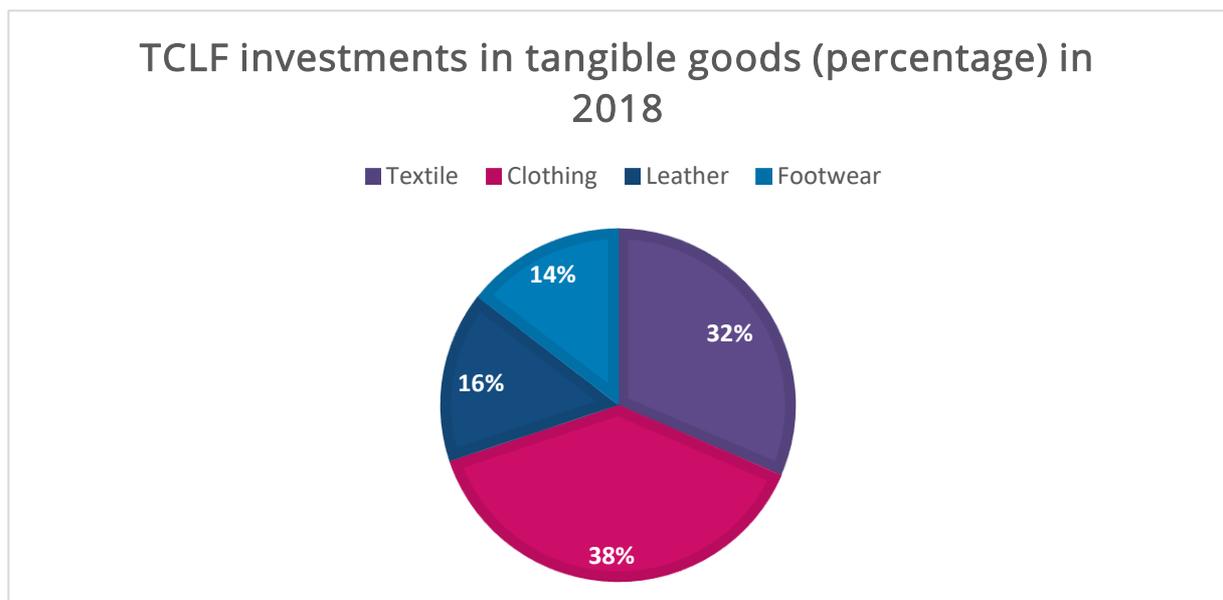


FIGURE 2.16

Source: based on Eurostat and Istat data, 2018

Since 2010, Italian investments in tangible goods have grown in the clothing (+84.1%), footwear (+75.1%) and leather (+41.7%) sectors, while in textiles they have decreased slightly (-3.0%).

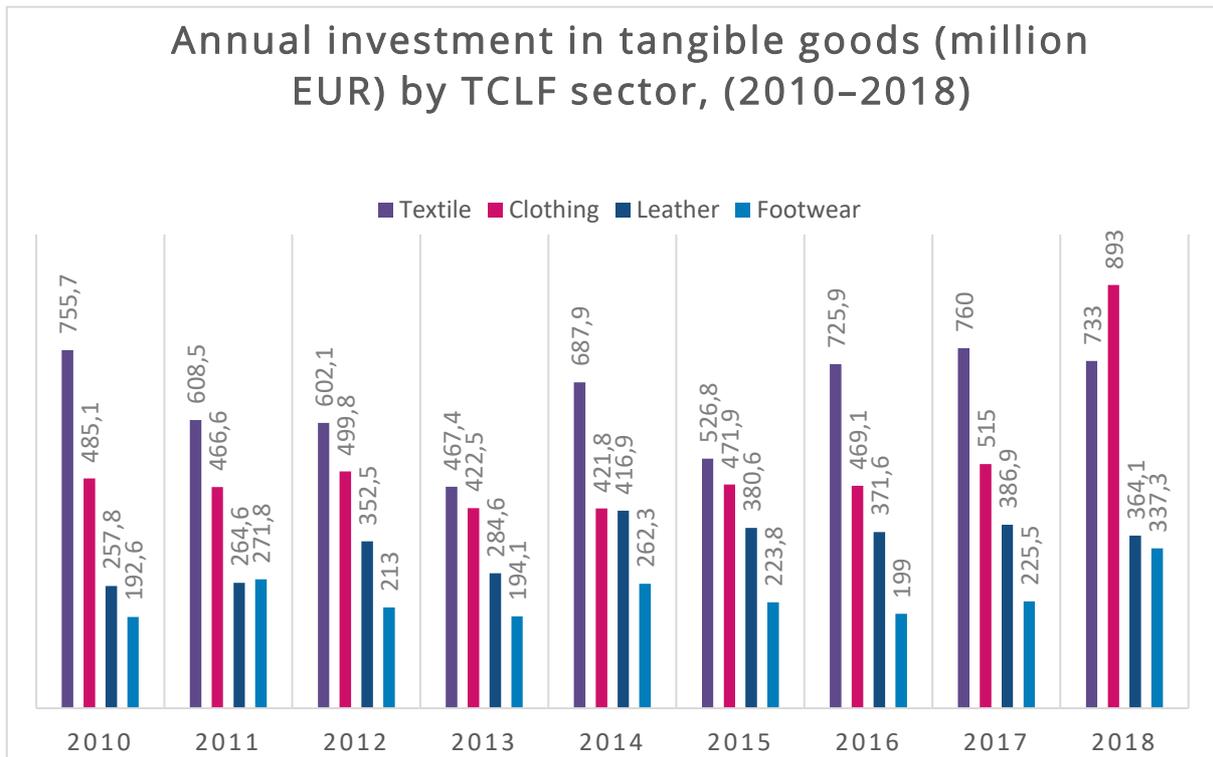


FIGURE 2.17

Source: based on Eurostat and Istat data, 2010-2018

In Italy, investments in machinery and equipment accounted for 6% of the total investments in the manufacturing industry in 2018, a decrease from 2017, which stood at 7%.

In 2018, investments in machinery and equipment (1.770 million EUR) were made above all in the clothing and textile sectors; the leather and footwear sectors trailed well behind.

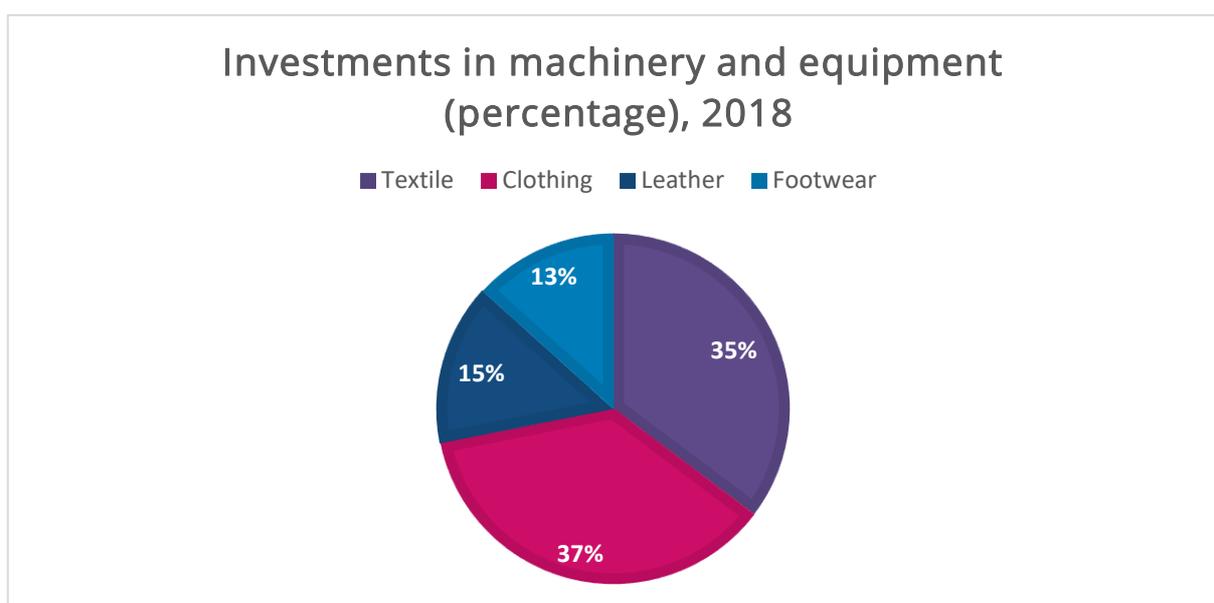


FIGURE 2.18

Source: based on Istat data, 2018

In Italy, from 2010 to 2018, investments in machinery and equipment in the TCLF sector grew by 32.4%.

In particular, the sector that increased these investments the most was clothing, showing growth in 2018, compared to 2010, of 74.9%, followed by the growth of the leather sector of 57.5% and footwear by 32.5%.

The textile sector showed a more discontinuous trend, with a strong decrease in 2013 but a tiny growth of 0.5% in 2018 compared to 2010.

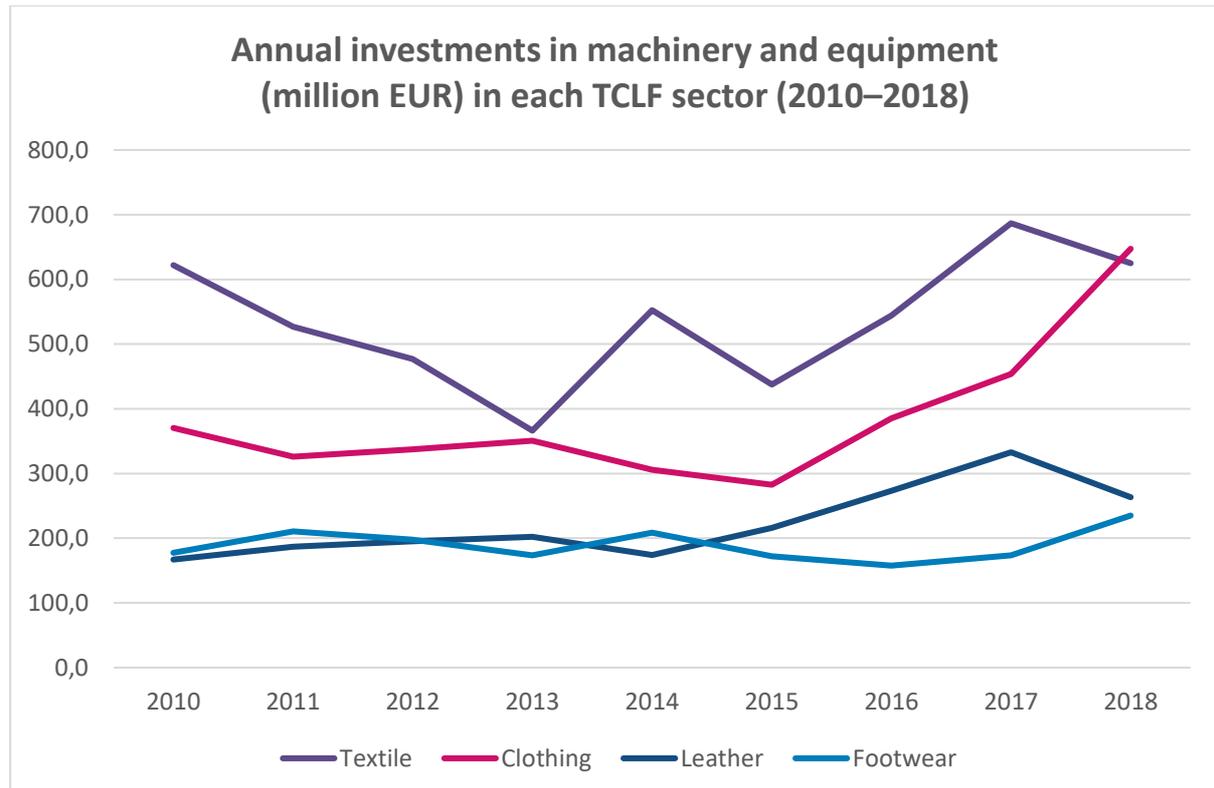


FIGURE 2.19

Source: based on Istat data, 2018

As for investments per employee in the Italian TCLF industries, they are above the European averages, especially in the clothing and textile sub-sectors, even if they are clearly inferior to those of other countries, such as Germany and Belgium.

From 2010 to 2017, investments increased in all sub-sectors, especially in the leather sector (+44.4%) and the textile sector (+28.0%), which are the most conspicuous in all the TCLF industries (6.4 thousand EUR), footwear (+20.8%) and finally clothing (+19.0%).

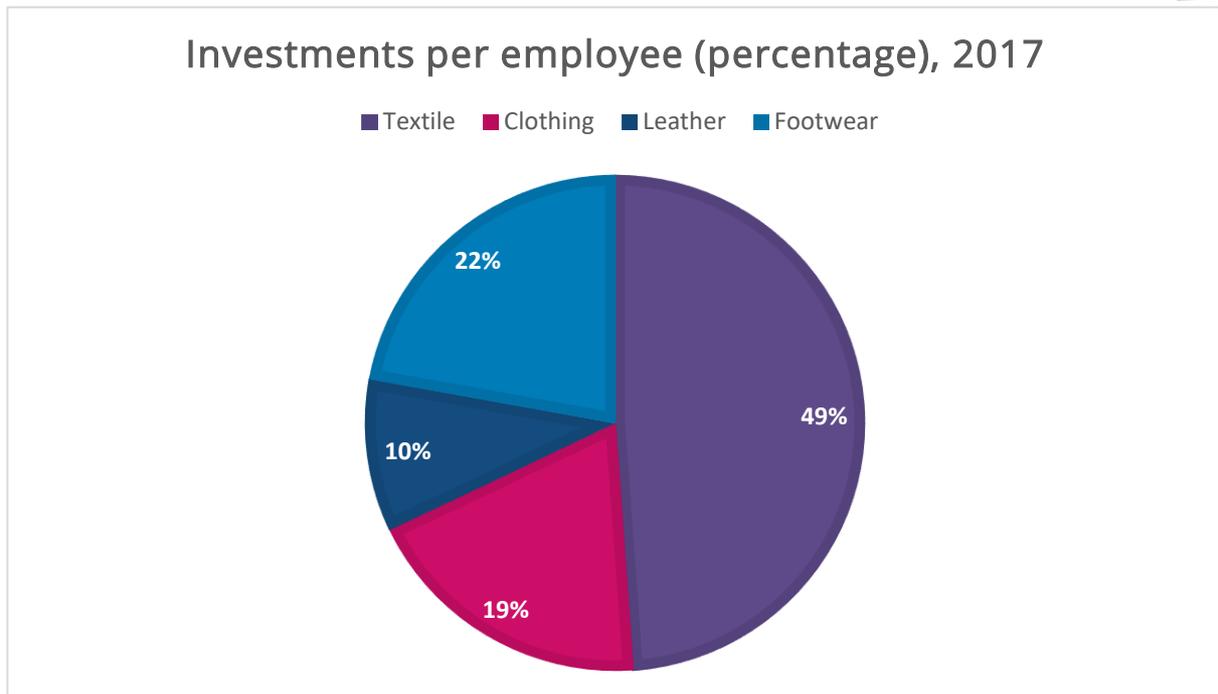


FIGURE 2.20

Source: based on Eurostat data, 2017

In the last 10 years, Italy has been experiencing a digital transformation that is influencing all the technologies of the TCLF sector. In fact, from 2010 to 2017, business expenditure on research and development (R&D) increased by 63.9% compared to 2010.

The largest business expenditure on R&D was in the clothing sector, which represents 46.8% of the TCLF sector.

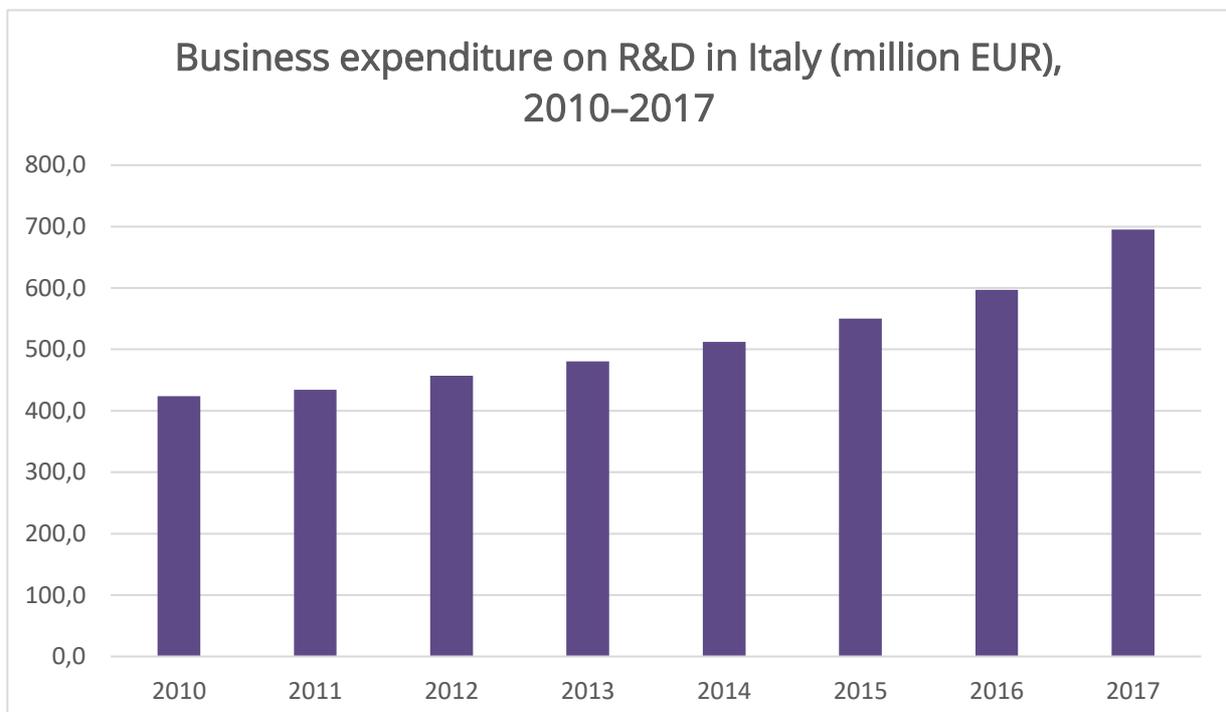


FIGURE 2.21

Source: based on Eurostat data, 2017

In Italy, 17 003 enterprises in the TCLF sector have carried out an innovation activity in a product and/or process, a number significantly higher than the European average, constituting 16% of the total Italian enterprises in general manufacturing that have carried out some type of innovation activity.

The pie chart below shows that more than a quarter of innovation activities concern the acquisition of machinery equipment, building and software (3128 enterprises), followed by enterprises engaged in training, market introduction, design or other innovation activities (1965 enterprises) and by enterprises that have carried out in-house research and development (R&D).

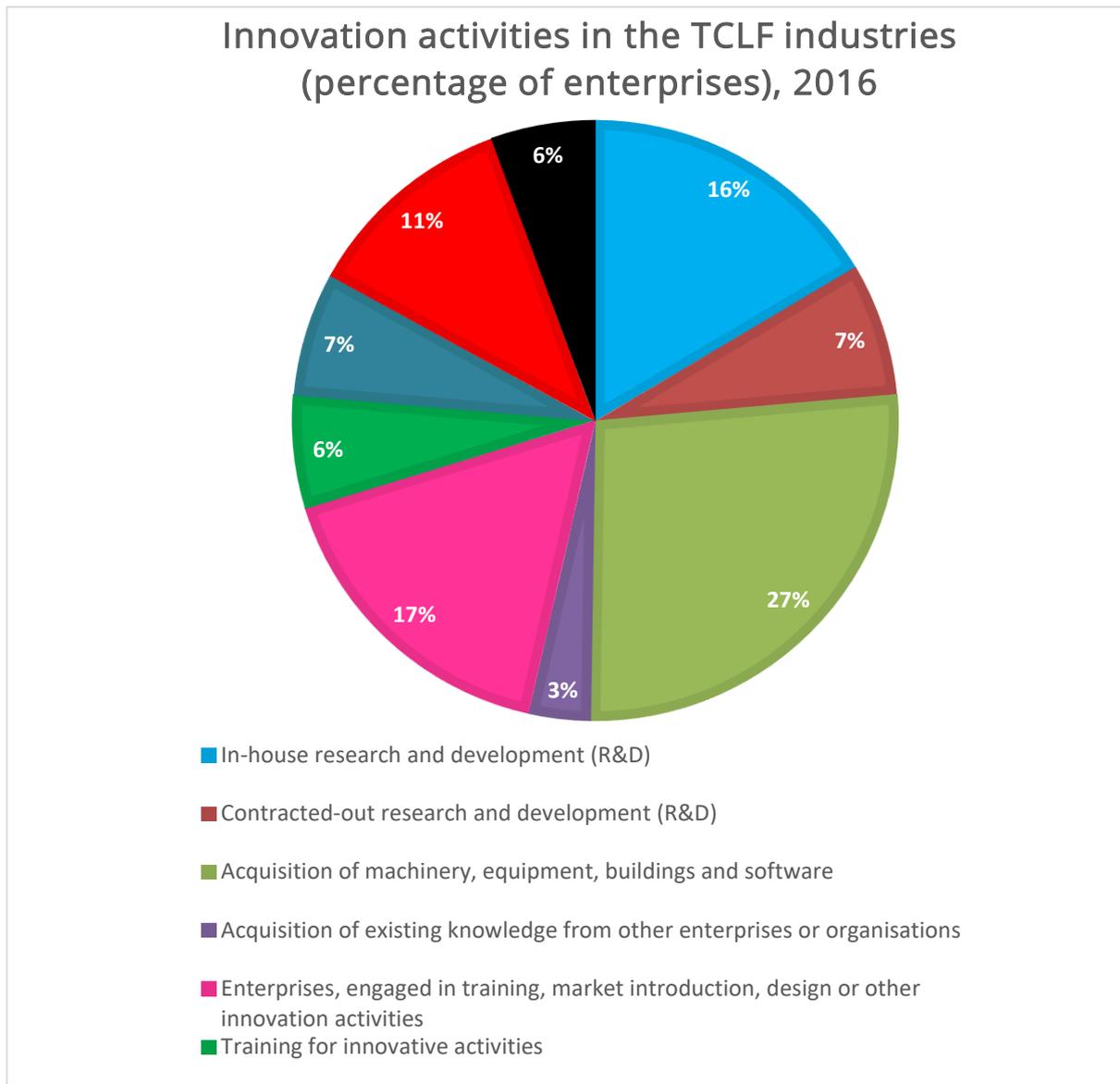


FIGURE 2.22

Source: based on Eurostat data, 2016

2.4. Sustainability and resource efficiency

An important aspect to consider in this overview of the situation of the Italian TCLF industries concerns sustainability.

In Italy, companies belonging to the TCLF sector have invested 105 806 thousand EUR in equipment and systems for pollution control and in special anti-pollution accessories (end-of-pipe technology) for investments in equipment and systems connected to clean technologies (integrated technology) and current expenses for environmental protection.

The graph below highlights that the greatest environmental investments are made for wastewater management, which represents almost half the expenses for environmental protection.

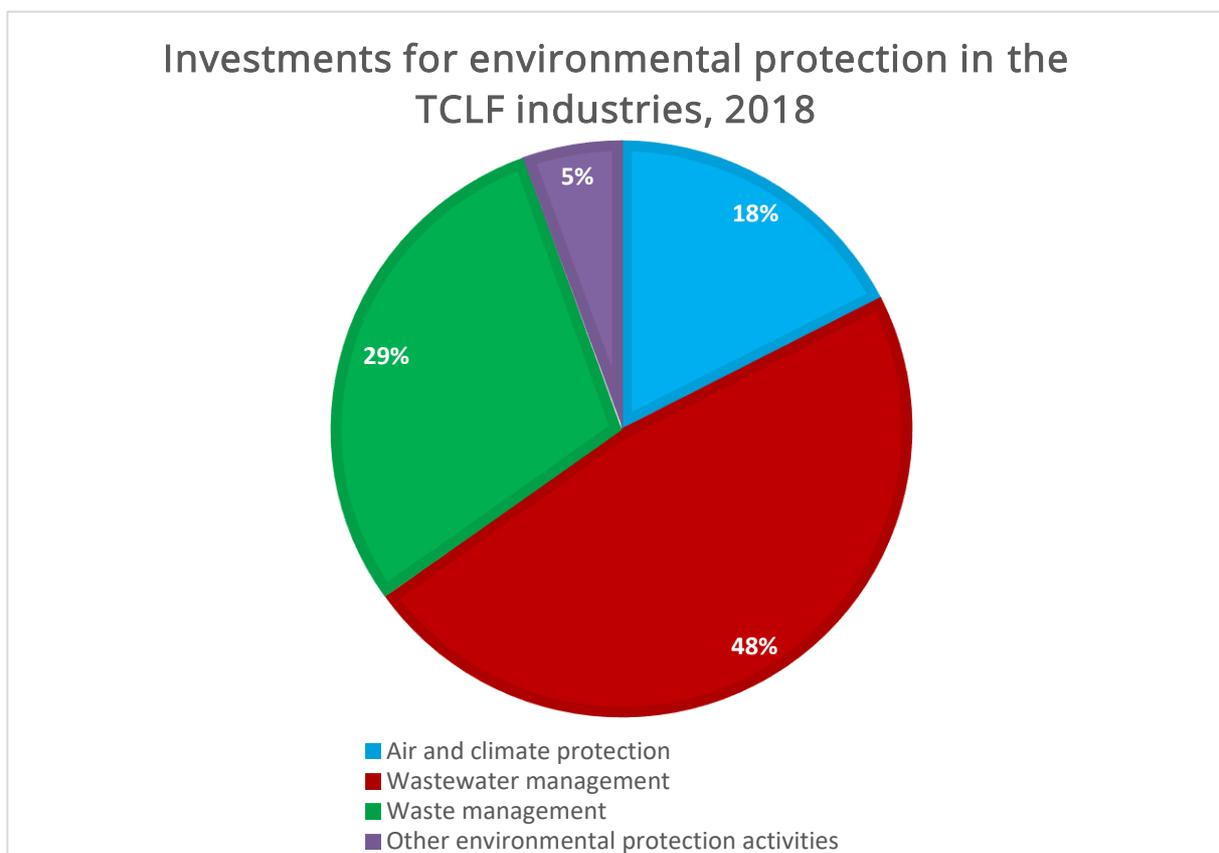


FIGURE 2.23

Source: based on Istat data, 2018

The sectors that invested the most in 2018 were leather and footwear (69 804 thousand EUR), while the one that invested the least was clothing (3 300 thousand EUR).

Investments in aspects related to sustainability are in line with the size of the companies; in fact, the expenses of micro-enterprises constitute only 1.1% of the total expenses, while the large companies represent almost half (47.1%) of the total expenses for environmental protection in the TCLF industries.

3. Situation and trends of employment and skills in the Italian TCLF industries

3.1. Share of the TCLF in the labour force

The TCLF industries are an important artery of the Italian manufacturing industry as far as national employment is concerned, marked by a long and ancient tradition that in recent years has been coming up against the need to acquire know-how on the use of the new technologies that have been introduced in these four sectors.

TCLF employment constitutes only 2% of the total labour force in Italy. Although this low percentage seems to indicate that the TCLF industries do not play such an important role from the point of view of the total workforce, they remain important for Italy in terms of the number of employees compared to the manufacturing sector data. In fact, in 2019, the share of TCLF in the labour force was 10% of the labour force in total Italian manufacturing, a much lower percentage than other countries, such as Portugal (25%) and Bulgaria (24%).

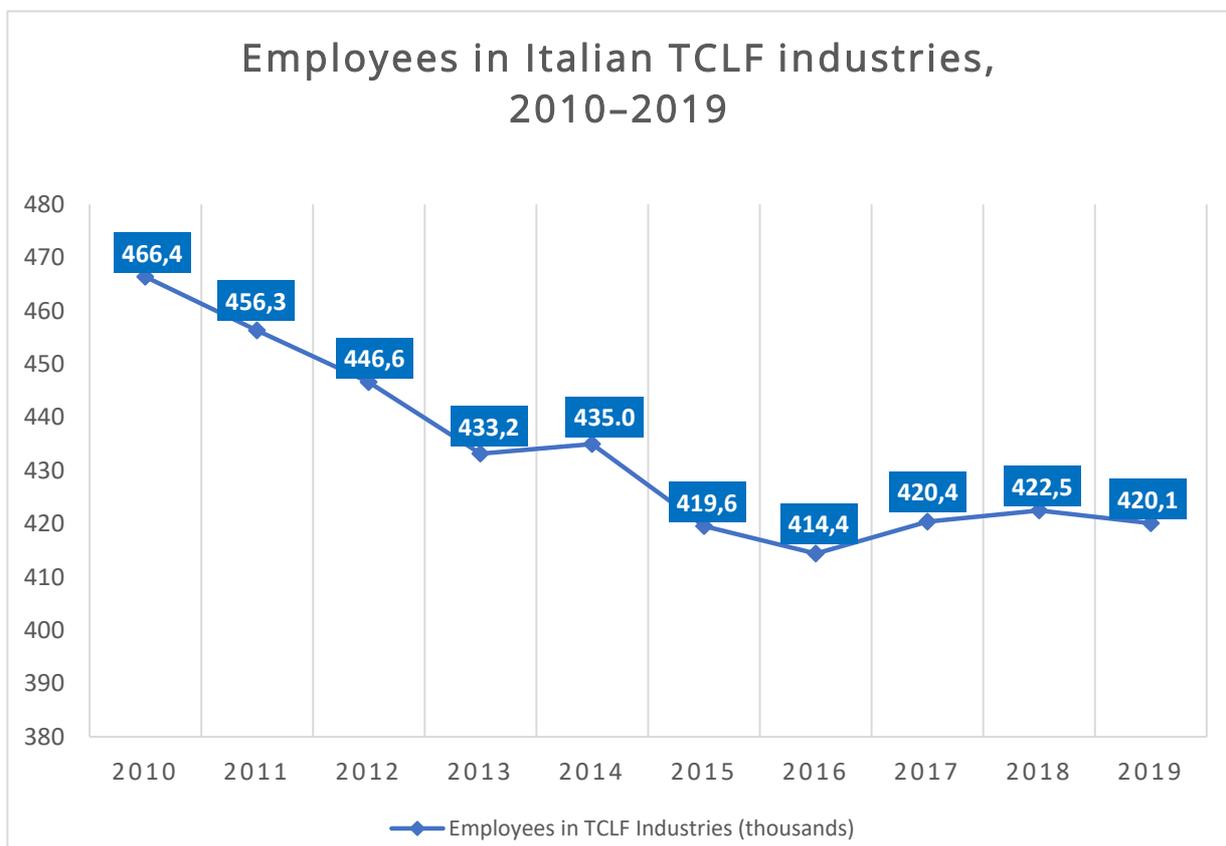


FIGURE 3.1

Source: based on Eurostat data, 2010-2019

According to Eurostat data (*Figure 3.1*), since 2010, the share of the TCLF workforce in the manufacturing labour force and the total labour force systematically decreased in Italy. In 2019, the labour force (15-64 years old) in the Italian TCLF industries reached 420 100 people, a number that fell by 9.9% compared to 2010 when it was around 464 400, but this represents a smaller decrease than the European average of around 11.6%.

The lowest number occurred in 2016, when there were about 414 400 workers, while since 2017, there has been a weak recovery that has stabilised the numbers at around 420 000 workers.

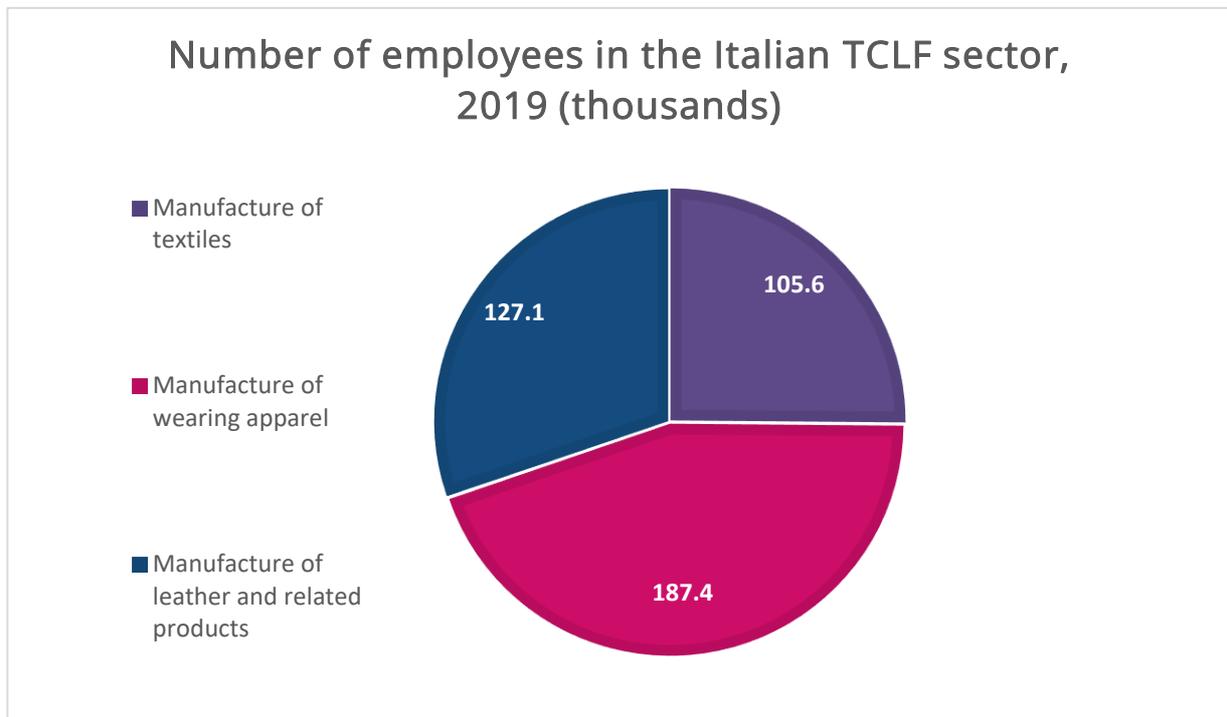


FIGURE 3.2

Source: based on Eurostat data, 2019

In 2019, the biggest sector, in terms of employees, was clothing with 187 400 people (*Figure 3.2*), representing around 45% of the total Italian labour force in the TCLF industries. This percentage is slightly lower than the European one, which is 48.4% of the total European TCLF labour force.

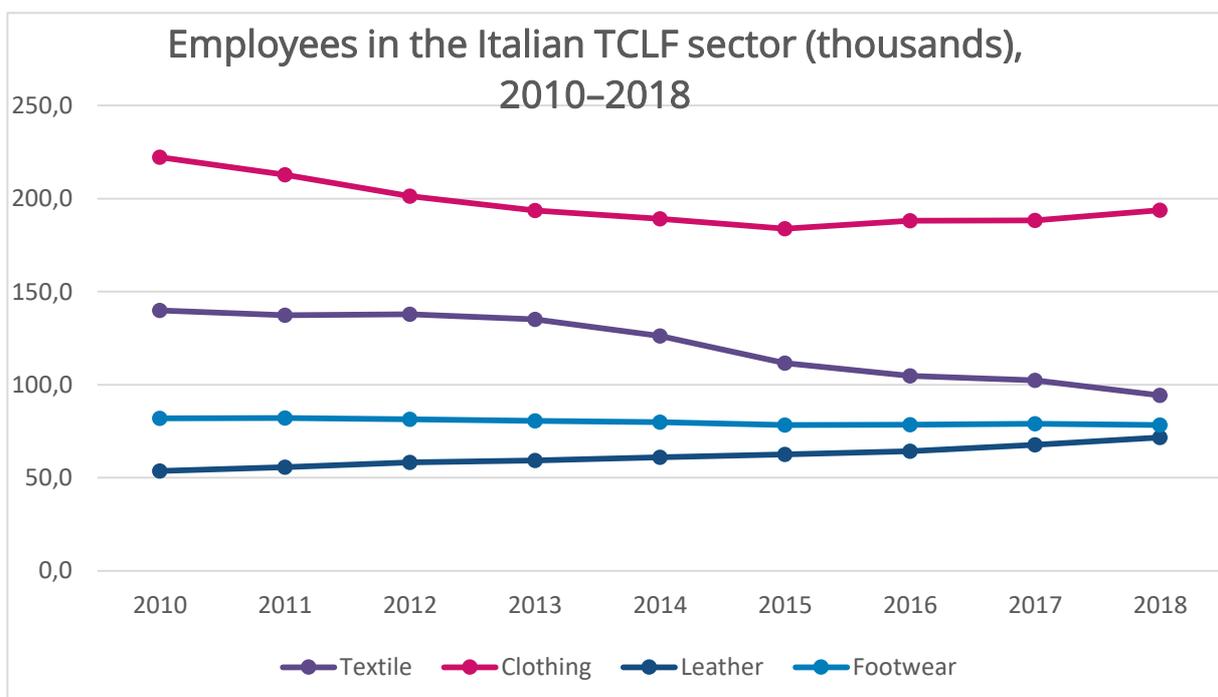


FIGURE 3.3

Source: based on Eurostat data, 2010–2018

The textile sector accounted for 25% (105 600 people) of the whole TCLF sector, less than the European average (29.6%). Finally, the leather sector (footwear included) accounted for 30% (127 100 people), which is much higher than the European percentage (22.1%).

According to Eurostat data (*Graph 3.3*), between 2010 and 2018, the textile sector experienced a 24.6% decrease in employment, a much greater decrease than the European average of employment in the textile sector, which indicates a decrease of 9.5%. Considering the time span from 2010 to 2018, the most affected sub-sectors were *manufacture of carpets and rugs*, with a decrease of almost half of the employees (-48.7%) and *finishing of textiles* with a decrease of 36.3%. The only textile sub-sector that had an increase in employees was *manufacture of non-wovens and articles made from non-wovens, except apparel*, which grew by 15.0%.

During this period, the clothing sector suffered a decrease in employment of 20.6%, which is clearly in line with the European average (-20.0%). The only sub-sector that increased the number of employees was *manufacture of other outerwear*, up 5.6%, while the sub-sectors that drastically reduced employment were *manufacture of underwear* and *manufacture of knitted and crocheted hosiery*, down 48.7% and 32.6%, respectively.

The leather sector, based on Istat data, from 2010 to 2018 had a consistent increase in employment of 33.4%, while footwear employment decreased slightly by 4.4%.

3.2. Distribution of Italian employment

Almost half the Italian employment in the TCLF industries is located in Northern Italy (49.1%), more than a third in Central Italy (35.0%) and the rest in South Italy.

In particular, a quarter of the employees in the TCLF industries work in the North-West of Italy (25.7%), especially in Lombardy (19.8%) and Piedmont (5.7%).

In North-East Italy, which represents 23.4% of all national employment in the TCLF industries, the regions with the highest proportions of workers are Veneto with 15.2% and Emilia-Romagna with 7.2%.

Central Italy accounts for more than one-third of TCLF employment. In more detail, Tuscany represents 23.1% of all national employment and is the Italian region with the highest number of employees in the TCLF Industries. In other words, almost a quarter of the entire Italian labour force in the TCLF sector is in Tuscany. Another high percentage of employees is in Marche (8.3%).

South Italy has only 15.9% of TCLF employment. The regions with the most employees are Campania (7.2%), which accounts for almost half the TCLF labour force in South Italy, and Puglia (4.9%).

Distribution of employment in Italy (by number of employees)

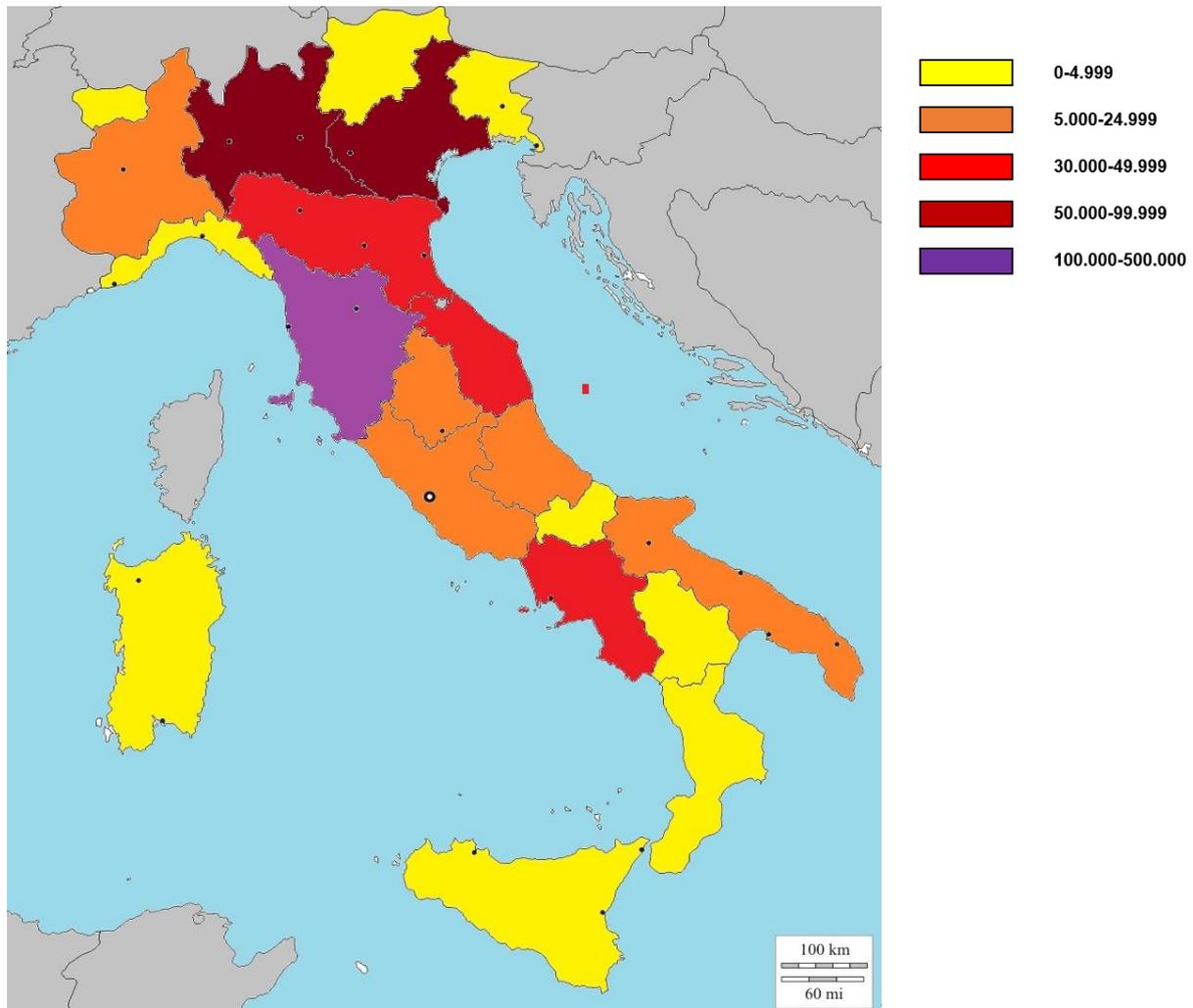


FIGURE 3.4

Source: based on Eurostat data, 2017

Half of all textile employees work in the North-West (50.5%), followed by Central Italy (25.0%), the North-East (16.1%) and the South (8.5%). All Italian regions have recorded significant decreases in employment in this sector since 2010, especially in Lombardy (-29.1%), Emilia-Romagna (-24.4%), Piedmont (-23.4%) and Veneto (-21.5%).

Regarding clothing, the situation is very balanced geographically, with a slightly higher presence in Central Italy (30.1%), followed by North-East Italy (26.6%), North-West Italy (22.8%) and the South (20.7%). In all regions, employment in this sector decreased between 2010 and 2017, with the exception of three regions where it increased: Campania (+37.3%), Tuscany (+31.5%) and Umbria (+8.7%).

For the *manufacture of leather and related products*, which also includes footwear, half of the employees are in Central Italy (50.1%), followed by North-East Italy (25.2%). In South Italy and North-Western Italy, the proportion of employment in these two sectors is lower, representing

15.3% and 9.4%, respectively. Since 2010, employment has increased in only 5 regions: Trentino Alto Adige (+37.9%), Campania (24.8%), Tuscany (+22.1%), Veneto (4.7%) and Abruzzo (+1.9%).

The five most representative regions of Italy, in terms of the number of employees belonging to the TCLF industries, are summarised in the table below (*Table 3.5*). Tuscany, Lombardy and Veneto are the Italian regions with the highest numbers of employees in the TCLF sector.

	Region	Regional/Italian TCLF employment	Employees
1	Tuscany	23.1%	105 290
2	Lombardy	19.8%	90 038
3	Veneto	15.2%	69 228
4	Marche	8.3%	38 005
5	Campania	7.2%	32 861

TABLE 3.5

Source: based on Eurostat data, 2019

The geographical allocation of employment for the textile sector in 2017 concentrated 84.2% of the workforce in Lombardy, Tuscany, Piedmont, Veneto and Emilia-Romagna (*Figure 3.6*). Since 2010, Italy has been the country in Europe that has lost the highest number of workers in the sector, i.e. 33,483 workers, of whom more than half were in Lombardy (loss of 17,126 workers).

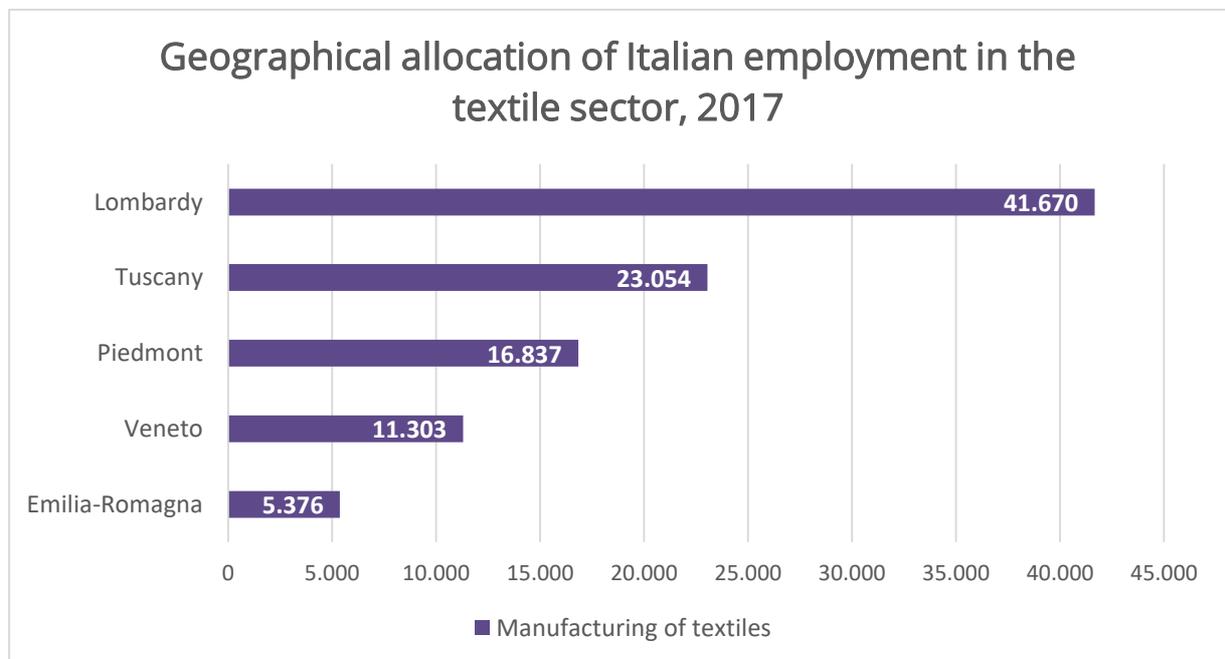


FIGURE 3.6

Source: based on Eurostat data, 2017

Regarding the allocation of employment in the clothing sector in 2017, the top 5 regions (*Figure 3.7*) accounted for 71.0% of the total employment. More than a third (37.3%) of Italian employment in this sector is in just two regions: Tuscany and Lombardy, which have 73,392 workers. In 2010, Tuscany was in fourth place in terms of the number of employees (28,316), and in 2017, it became the Italian region with the highest number of workers in the clothing sector. Lombardy followed the opposite path. After being in first place in 2010, it lost 9,826 workers and became second.

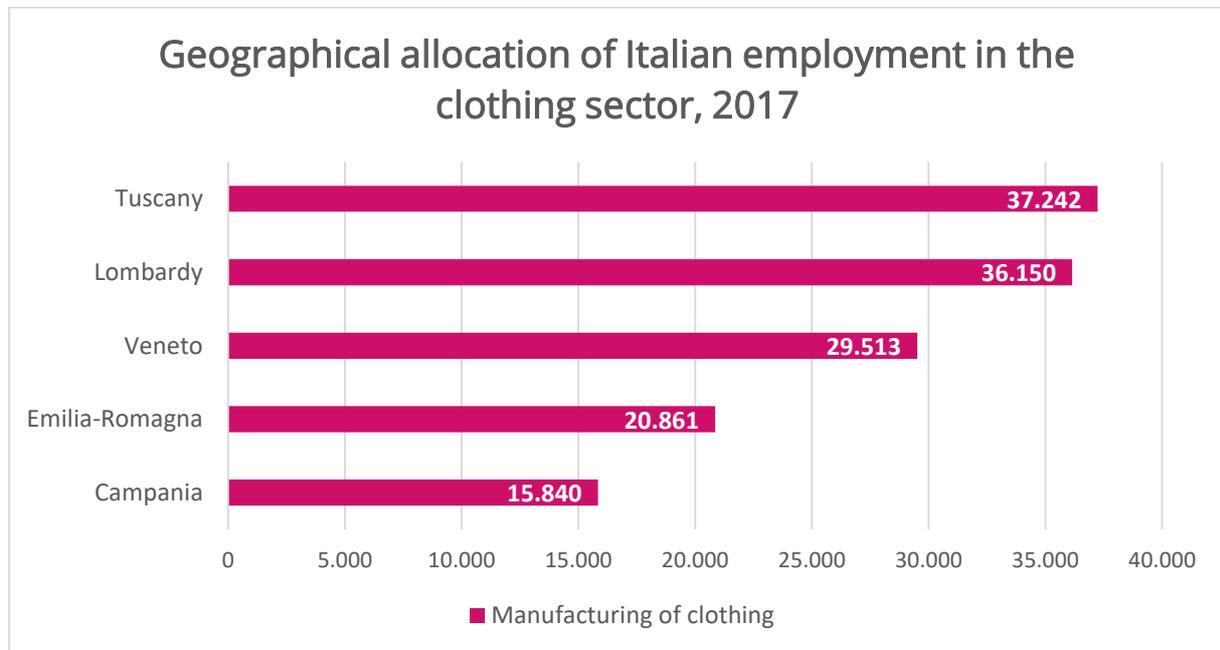


FIGURE 3.7

Source: based on Eurostat data, 2017

According to Eurostat, in 2017, the Italian leather and footwear sectors employed 87.3% of their labour force in Tuscany, Veneto, Marche, Campania and Lombardy. Moreover, compared to 2010 data, apart from Lombardy, the other four main regions recorded an increase in the number of workers, which also corresponds to the general European trend in these two industries.

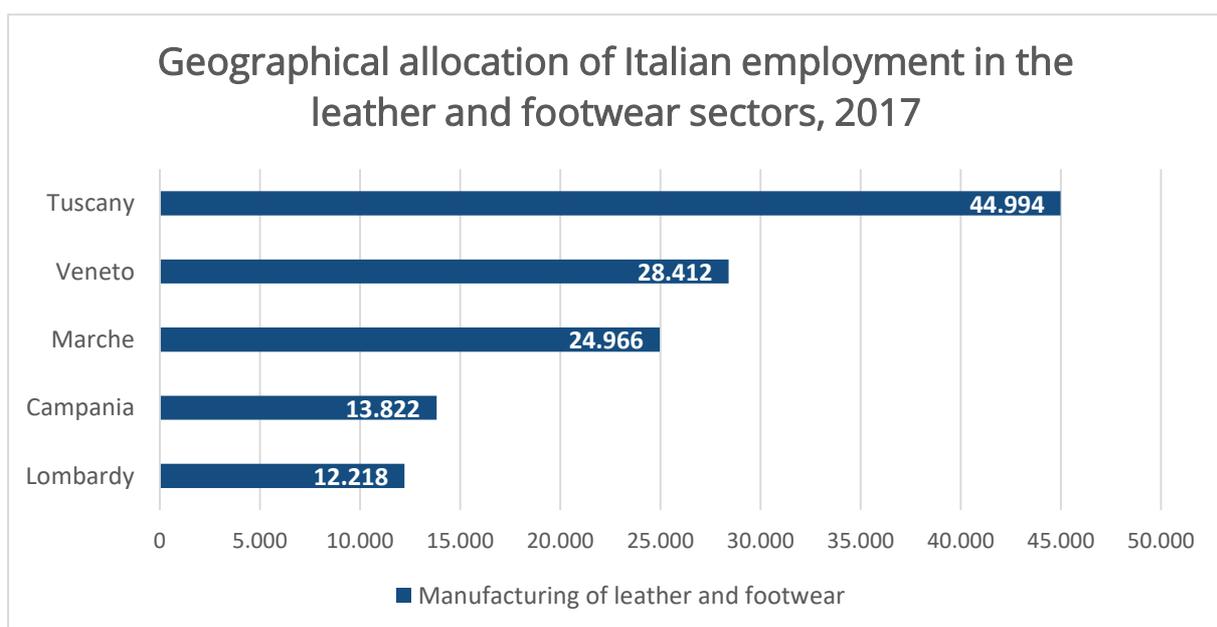


FIGURE 3.8

Source: based on Eurostat data, 2017

3.3. Gender dimension

Regarding gender proportions in the TCLF industries in Italy, they do not totally follow the European model, according to which the majority of employees are women. In general, it is true that the percentage of women in the total TCLF workforce is higher than that of men, but if we look at the individual sectors, we can see large differences.

In fact, as illustrated in *Figure 3.9*, in 2019 only in the clothing sector did women (65.7%) outnumber men (34.4%); in the textile and leather/footwear sectors, women workers represented a minority, 45.4% and 48.6%, respectively.

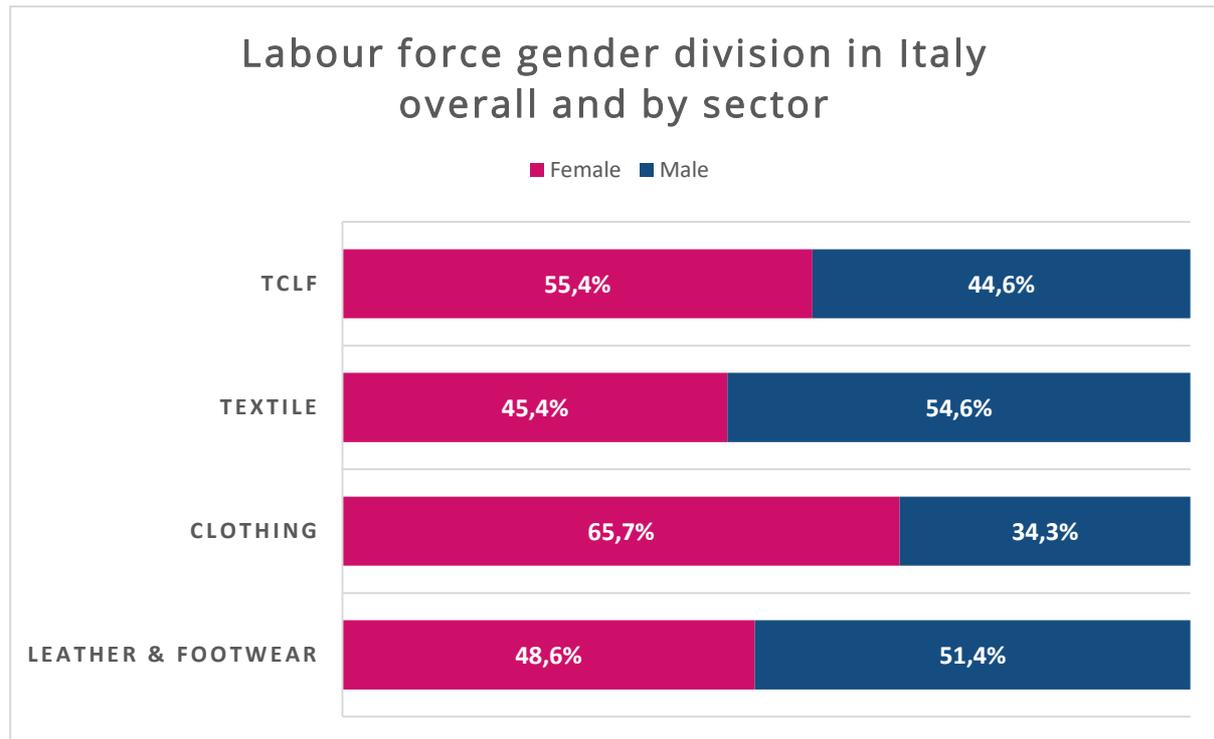


FIGURE 3.9

Source: based on Eurostat data, 2019

The most gender-balanced industry is the leather and footwear sector, as the ratio in 2019 was 48.6% women to 51.4% men, keeping the same symmetry since 2010. This indicates that the changes in employment affected both genders in the same way.

In the textile sector, as already noted, 45.4% of workers are women. Compared to 2010, this percentage has decreased (in 2010 it was 47.1%). As in the textile, leather and footwear industries, changes in the total number of employees during the last decade have not affected the gender proportions. From 2010 to 2019, the percentage of women in the clothing sector also decreased from 74.3% in 2010 to 65.7% in 2019, although it was higher than that of men.

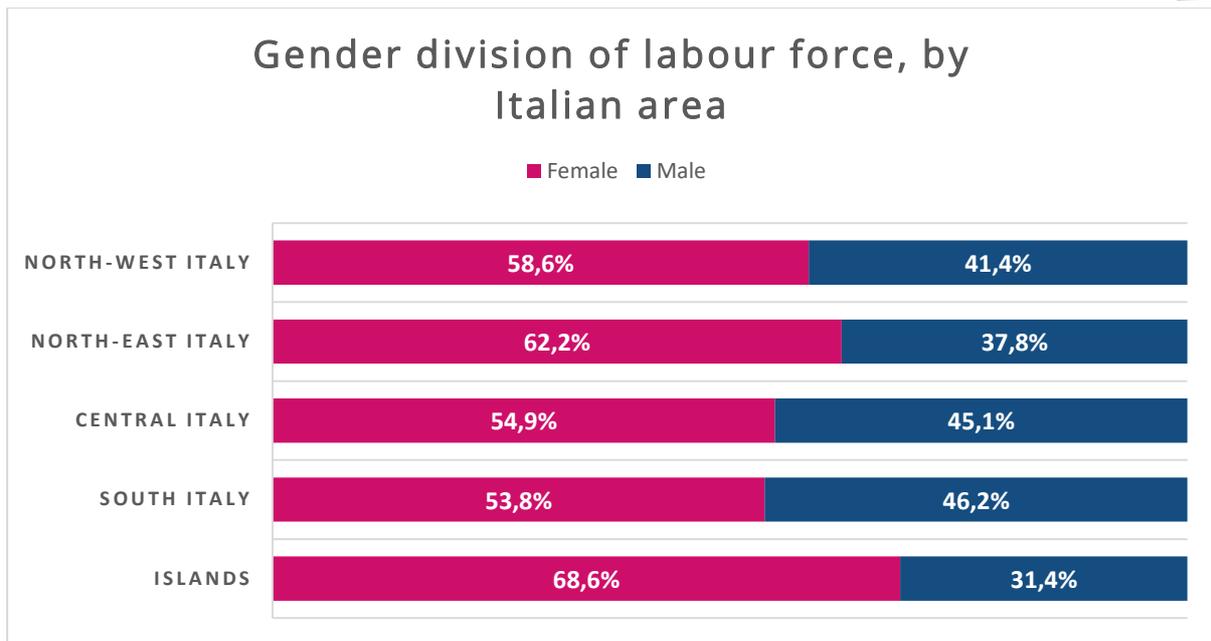


FIGURE 3.10

Source: based on Eurostat data, 2017

If we analyse the situation in the different Italian areas (*Figure 3.10*), it is noticeable that the highest percentage of female employment in the TCLF sector appears in the Islands (Sardinia and Sicily), while the lowest is in South Italy (Campania, Abruzzo, Puglia, Calabria, Molise, Basilicata). In Northern Italy, there are more women in the East than in the West.

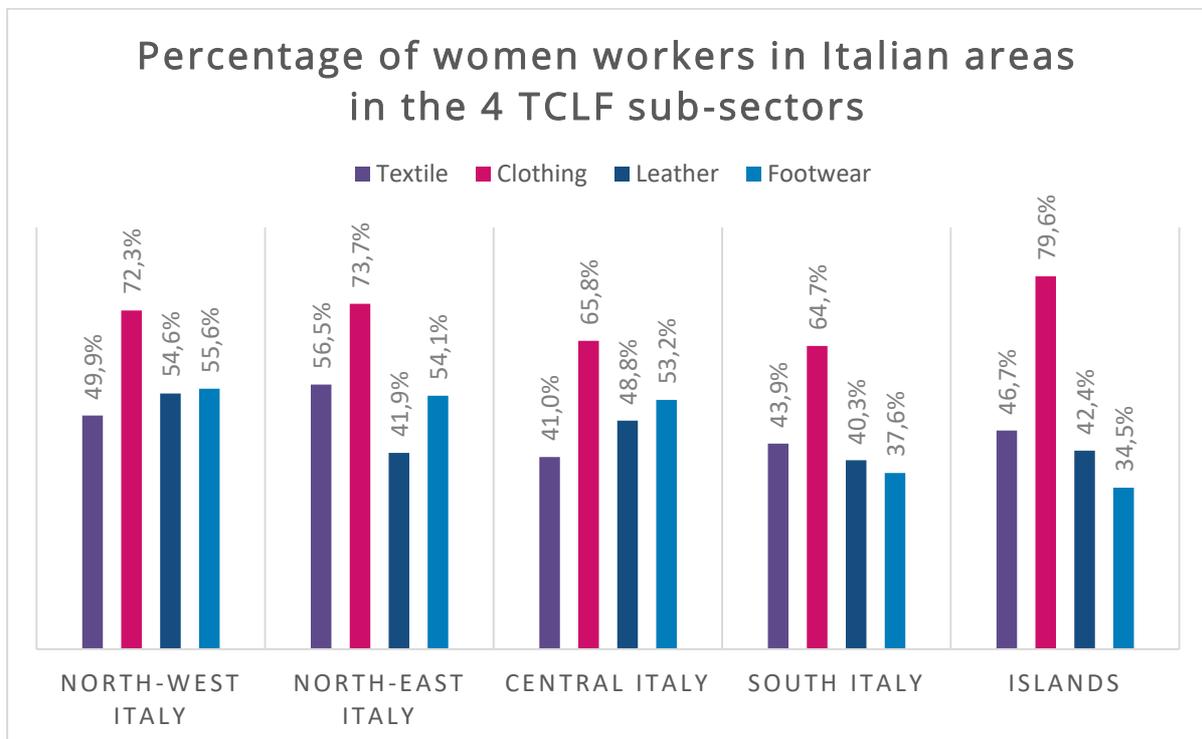


FIGURE 3.11

Source: based on Eurostat data, 2017

The percentage of female employment varies greatly across different sectors and geographical areas in Italy (*Figure 3.11*). For the textile sector, the largest presence of female workers is in the

North-East, especially in the sub-sector *finishing of textiles* (58.5%), followed by the North-West, especially in the sub-sector *weaving of textiles* (55.8%).

The area with the lowest percentage of female employment is Central Italy, especially in the sub-sectors *weaving of textiles* (30.3%) and *finishing of textiles* (31.8%). There are also low percentages in the sub-sector *preparation and spinning of textile fibres* in South Italy (26.4%) and in the sub-sector *finishing of textiles* in North-West Italy (36.6%).

In the clothing sector, the highest percentage of female employment is in the Islands, where almost 4 out of 5 workers are female. In Central Italy, there is also a very high female presence in the sub-sector *manufacture of articles of fur* (79.2%) and in the North-East in the sub-sector *manufacture of knitted and crocheted apparel* (79.0%).

The Italian area with the lowest percentage of female workers is the South, especially in the sub-sector *manufacture of knitted and crocheted apparel* (62.9%). In Central Italy, in the sub-sector *manufacture of wearing apparel, except fur apparel*, the female presence is 65.2%.

In the leather sector, the area with the most female workers is the North-West, which is the only Italian area where female workers outnumber male workers. In all the other Italian areas, the female presence is lower than the male presence; in South Italy it is only 40.3%, followed by the North-East (41.9%). Finally, in the footwear sector, the highest female presence is in North-West Italy (55.6%), while the lowest is in the Islands (34.5%).

3.4. Age distribution in the TCLF industries

According to general opinion (probably influenced by the fashion market), workers in the TCLF industries are mostly young workers, sometimes with no experience and little training. However, in analysing the data, there is a big difference between this perception and the reality in the labour force of the Italian TCLF industries, where the average age of workers is very high.

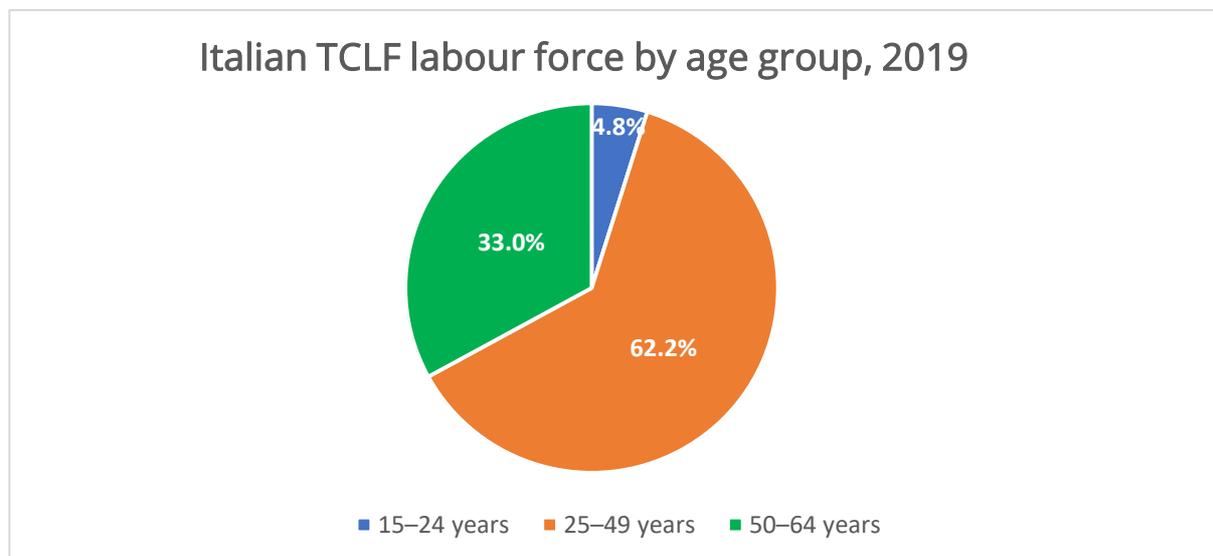


FIGURE 3.12

Source: based on Eurostat data, 2019

In detail, young workers (15–24 years) constitute only 4.8% of the labour force, an average absolutely in line with the European one (4.5%). From 2010 to 2019, the number of workers in this group remained almost unchanged (*Graph 3.13*), decreasing by only 2.9%.

Moreover, there is a significant proportion of workers over 50 years old (33.0%), which is slightly lower than the European percentage (34.5%). In the last 10 years, the number of workers in this age group has increased by 25.3%.

Finally, almost two-thirds of the labour force in the TCLF industries belong to the 25–49 years age group (62.2%), which is slightly higher than the European average (61.0%). Since 2009, the number of these workers has decreased by 22.1%, and it is the age group that has seen the largest decrease.

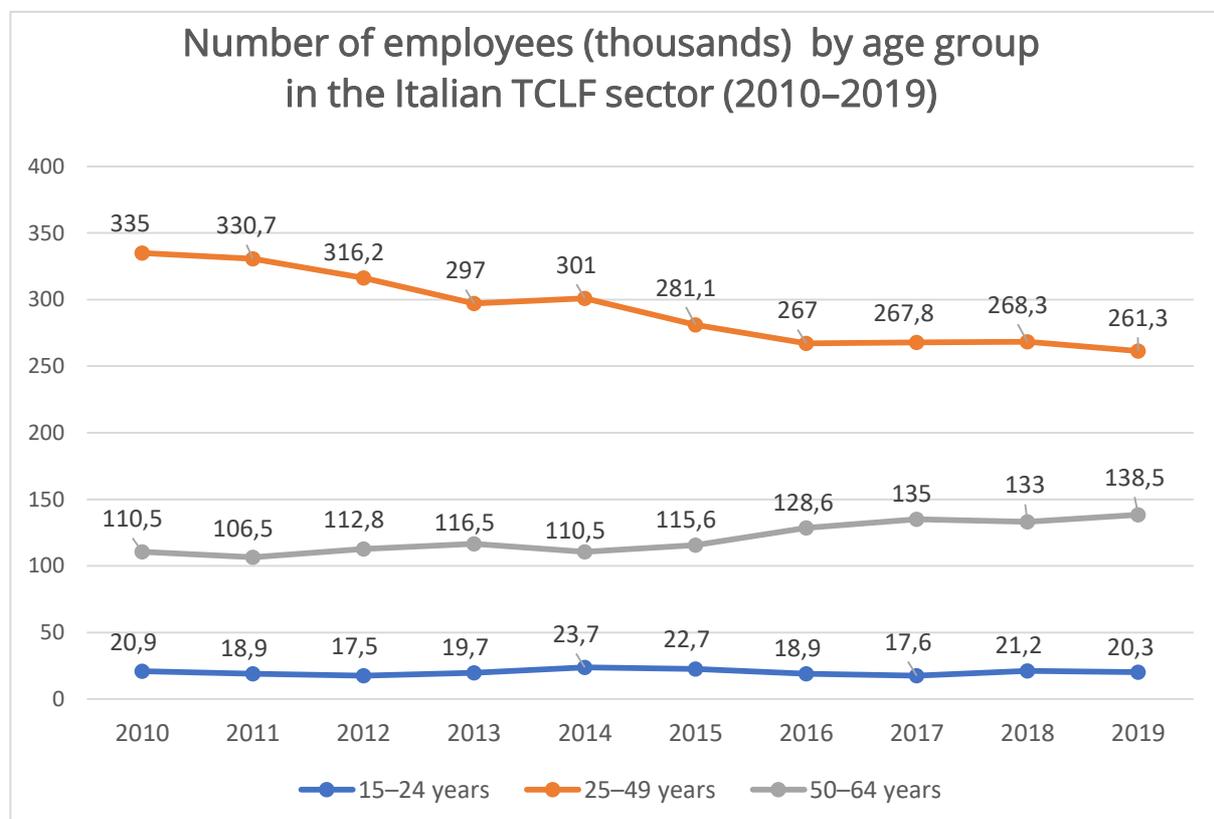


FIGURE 3.13

Source: based on Eurostat data, 2010–2019

Considering these data, it can be seen that the labour force in the TCLF industries has aged slightly between 2010 and 2019. We also analysed the evolution of the different labour force age groups for each sector, as shown in *Figure 3.14*, *3.15* and *3.16*

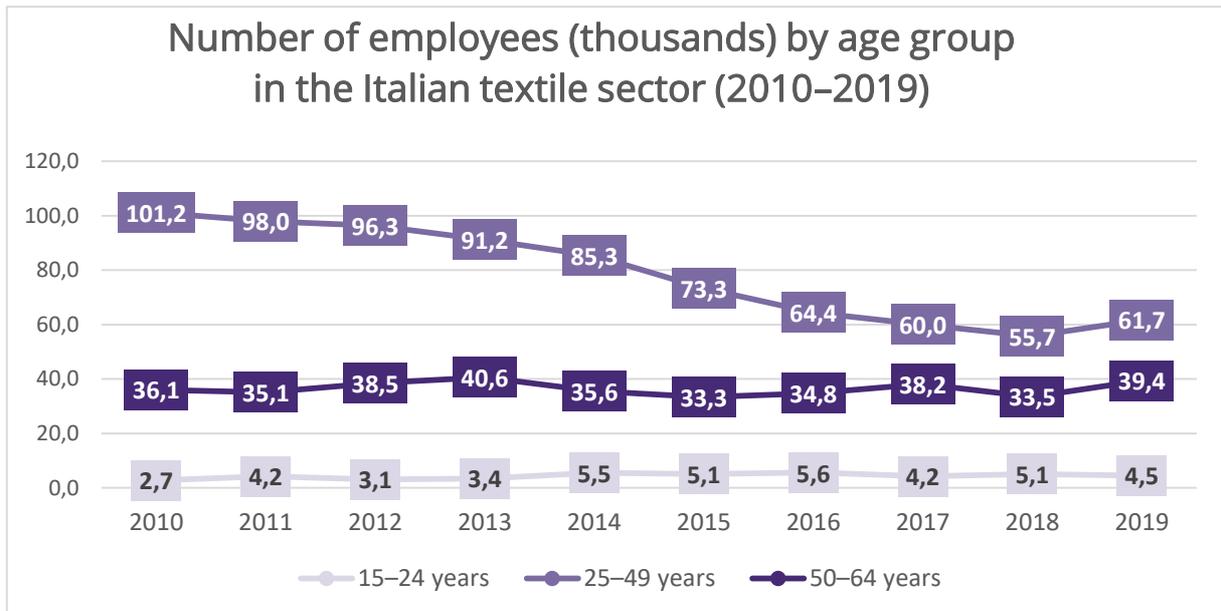


FIGURE 3.14

Source: based on Eurostat data, 2010-2019

The textile sector is the sector with the lowest number of employees in the younger age groups and the most employees in the 50–64 years age group.

Between 2010 and 2019, the 15–24 years age group increased by 66.7%, which is significantly more than the average European increase (+15.2%) in this age group.

Workers in the 25–49 years age group decreased by 39.9% since 2010, almost double the European decrease (-20.8%).

The third age group, 50–64 years, increased by 9.1%, less than half the increase in the European average (+19.3%).

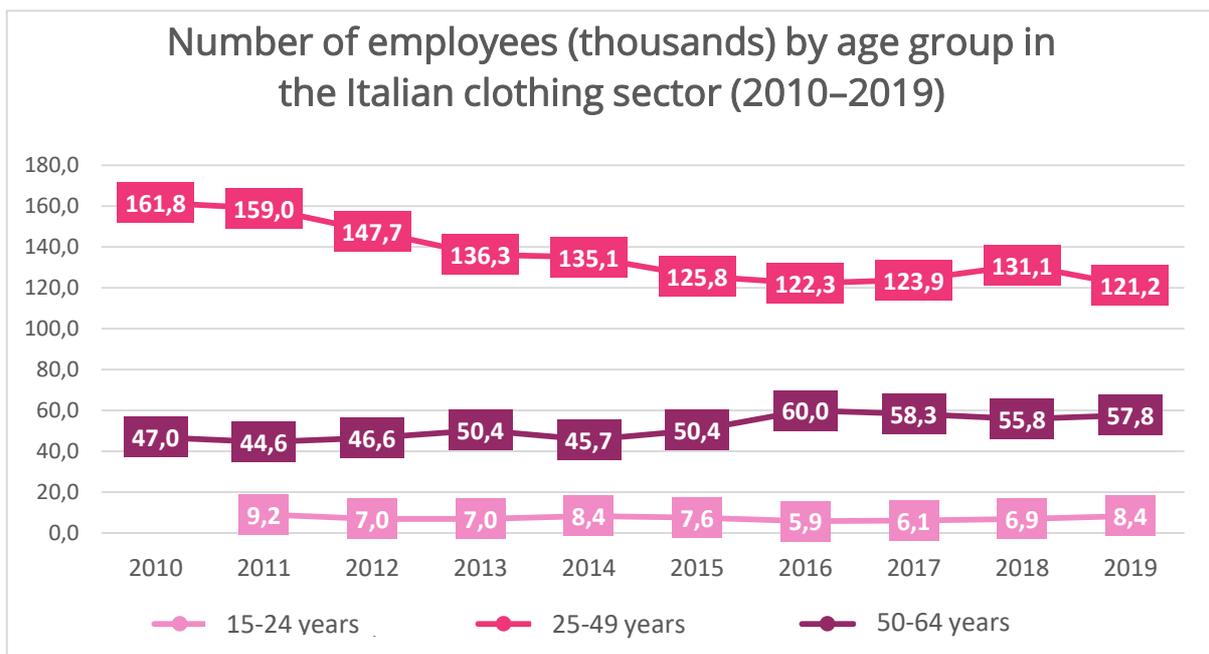


FIGURE 3.15

Source: based on Eurostat data, 2010-2019

The clothing sector has the lowest number of employees in the 50–64 years age group and the most employees in the 25–49 age group. Between 2011 and 2019, the youngest employees (aged 15-24) have decreased a lot, by 37.8%, a smaller percentage than the European average (-40.1%), but still remarkable.

Workers in the middle age group have also decreased a lot, by 25.1%, which is slightly less than the European average of 30.1%.

The oldest age group, 50–64 years, increased by 23.0% between 2010 and 2019, which is significantly higher than the European average increase in this age group (+13.5%).

We can conclude that the clothing sector in the last 10 years has employed a greater proportion of people over 50 than of young workers.

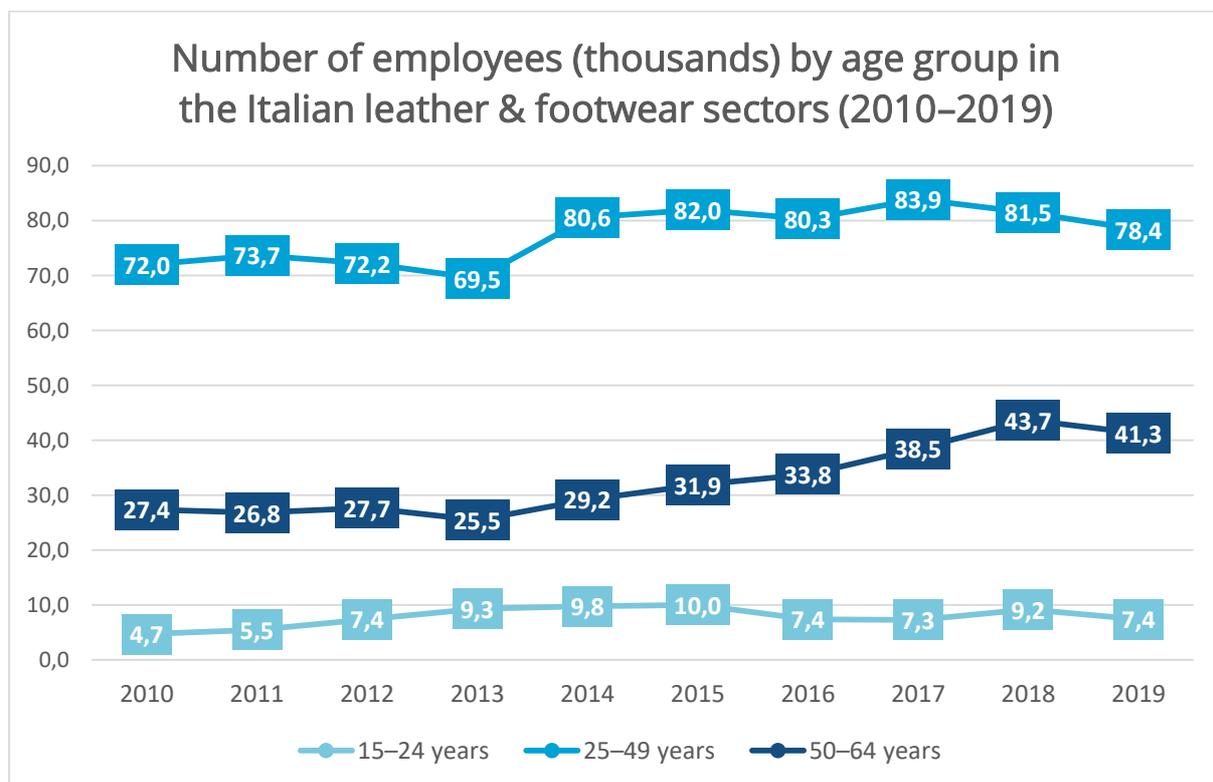


FIGURE 3.16

Source: based on Eurostat data, 2010-2019

Leather and footwear are the sectors with the highest proportion of workers belonging to the 15–24 years age group, which has increased by 57.4% between 2010 and 2019, a situation in stark contrast to the European average, where the proportion of young people has decreased by 6.2%.

Workers belonging to the middle age group, 25–49 years, accounted for more than half the entire sector (61.7%) and increased by 8.9% between 2010 and 2019. Again, this is different from the European average, where the proportion of these workers decreased by 2.4%.

Finally, the third group, older workers, increased by 50.7% between 2010 and 2019, in line with the general European increase (+52.7%).

To give greater clarity to the analysis, we have summarised the situation of the Italian labour force divided by age group and sector.

As already analysed, the 15–24 years age group is larger in the leather and footwear sector than the other sectors, the 25–49 years age group is more conspicuous in the clothing sector, while the 50–64 years age group is largest in the textile industry. Below, *Figure 3.17* shows the summary chart.

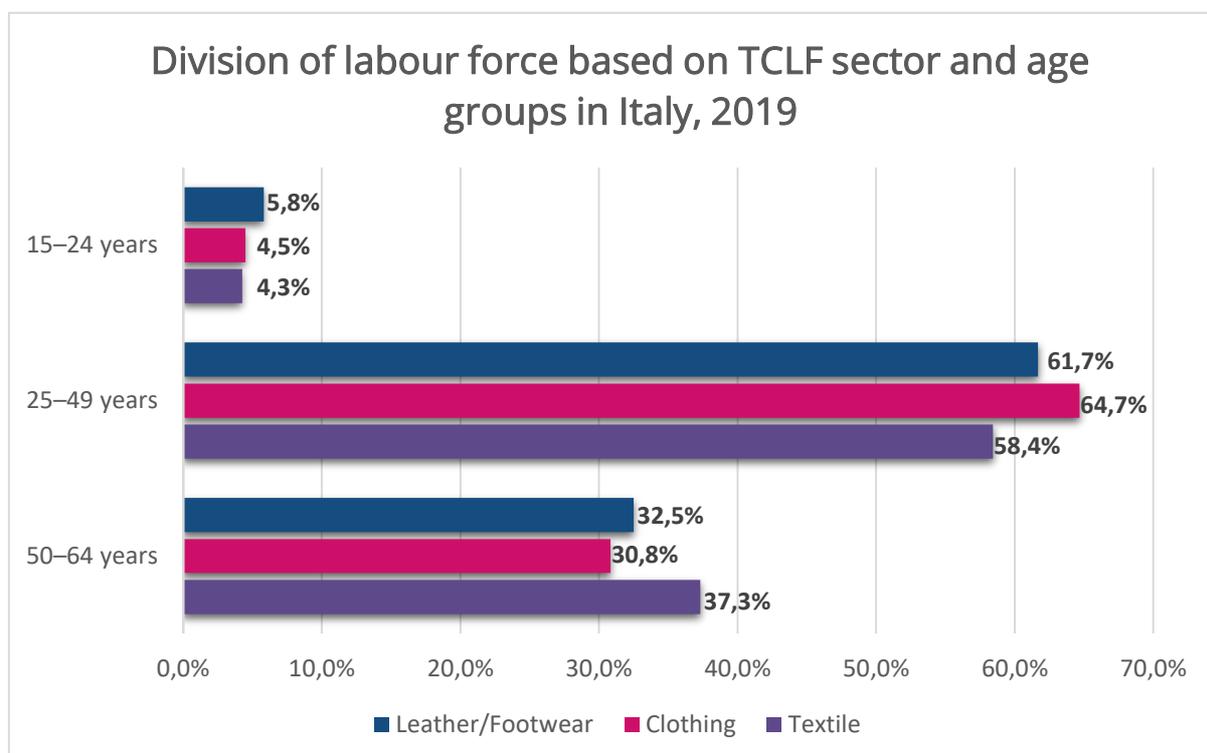


FIGURE 3.17

Source: based on Eurostat data, 2019

The number of workers aged from 50 to 64 years increased steadily between 2010 and 2019, with the exception of a slight decrease in 2014 (*Figure 3.18*).

From 2010 to 2019, these workers increased by 25.3%, with a peak of 50.7% in the leather and footwear sectors. The increase in the number of Italian workers over 50 in the TCLF industries was slightly higher than the European average increase in the number of workers in this age group.

In 2019, 138 500 workers over 50 were registered in Italy in the four TCLF sectors, compared to the total 420 100 workers. This indicates that within the TCLF industries, one-third of the total number of employees is over 50, and therefore in the coming years they will be close to retirement.

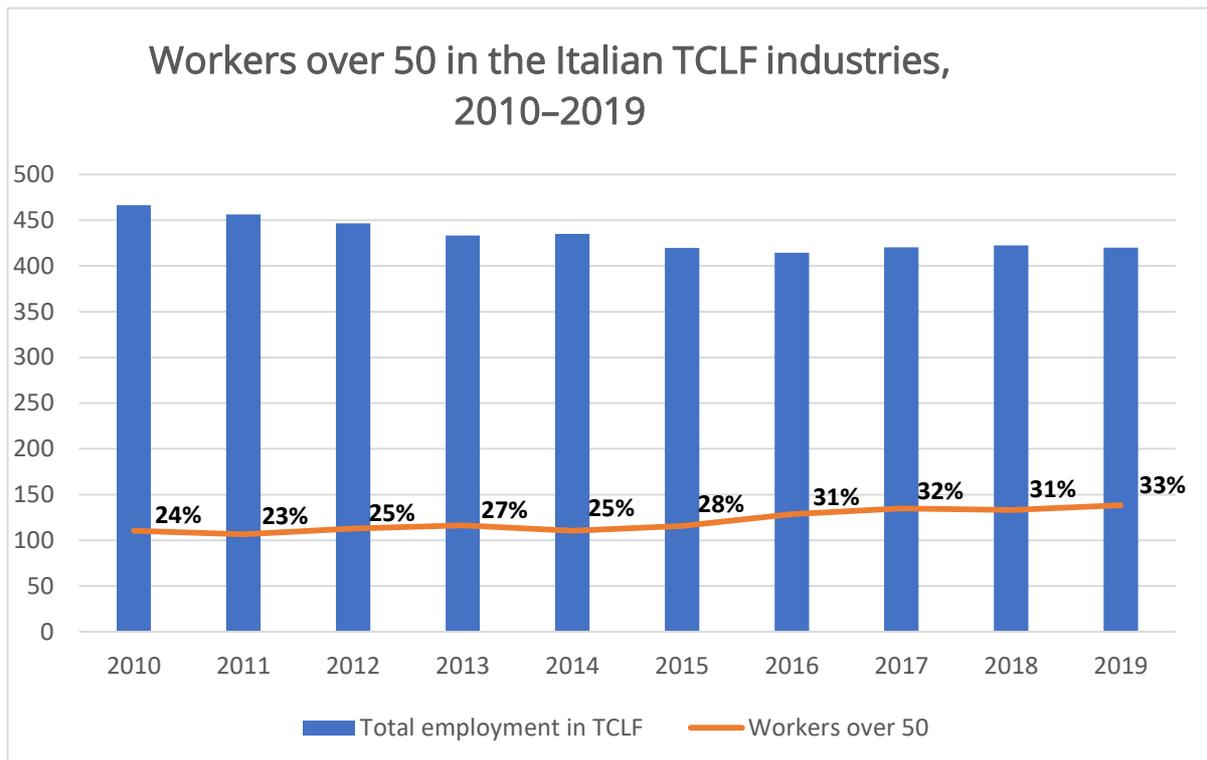


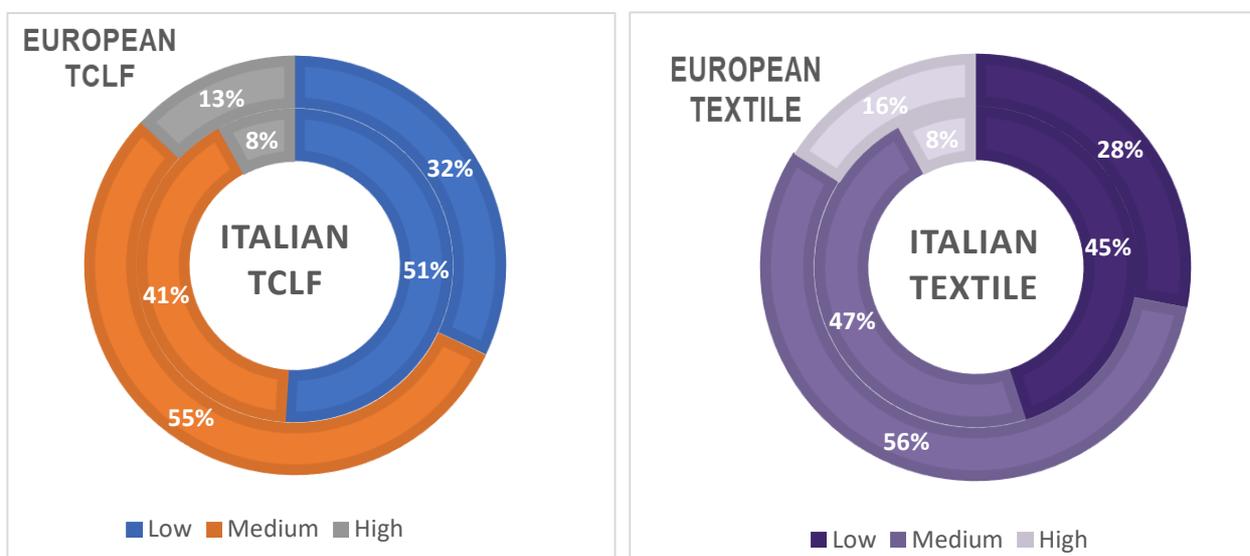
FIGURE 3.18

Source: based on Eurostat data, 2010-2019

3.5. Level of qualifications and type of occupation (ESCO)

The TCLF industries are part of the manufacturing world, so there is a wide differentiation of qualification levels amongst employees who work in various positions. In this paragraph, we analyse all the information about the qualification levels of the Italian workers, considering three levels of qualification, as identified by Eurostat: low, medium and high, which correspond to the education level.

Qualification levels of European and Italian workforces, by TCLF sector



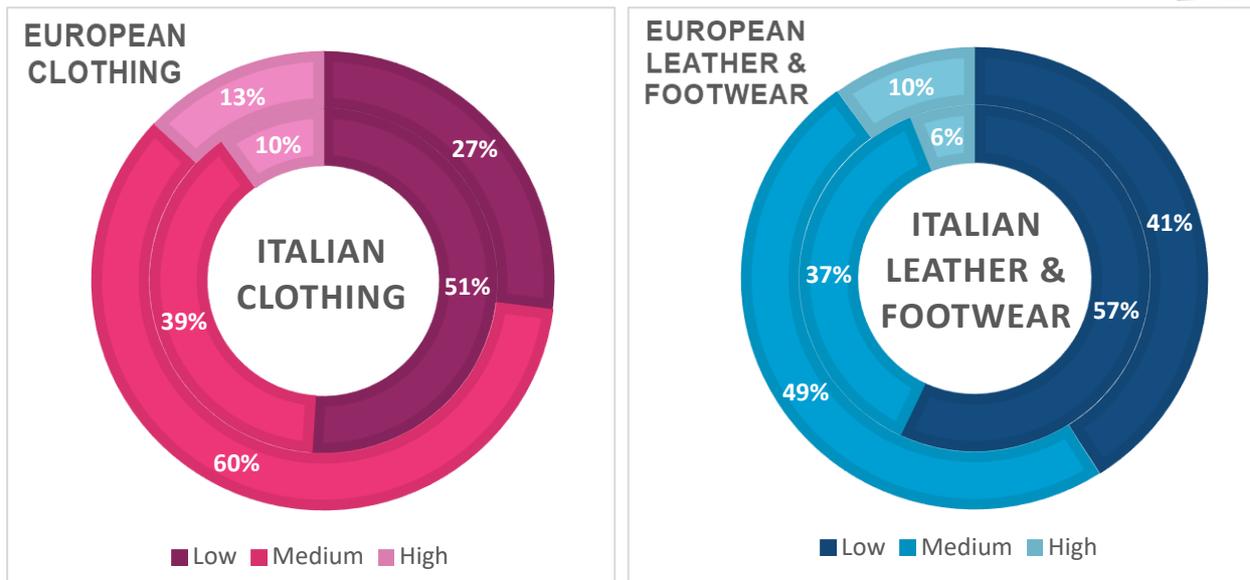


FIGURE 3.19

Source: based on Eurostat data, 2019

In Italy, 51% of the workers in the TCLF industries have a low level of qualifications, while in Europe it is only 30% and in France it is 18%. It is necessary to point out, however, that this percentage in Italy has decreased a lot between 2010 and 2019, namely by 12%.

Workers with a medium level of qualifications represent 41% of the total number of workers, a percentage that has risen considerably since 2010 (+32%) but that is much lower than the average percentage of European workers with this level.

Concerning workers with a high level, they represent a small proportion (8%). Although this has increased by 77% between 2010 and 2019 it is still below the European average (14%), especially compared to other European countries, such as France (33%), Spain (28%) and Greece (21%).

If we analyse the data for individual sectors, the highest proportion of workers with high-level education (10%) is employed within the clothing industry, while the sectors with the highest proportion of workers with low-level education are the leather and footwear industries (57%).

This could be the consequence of the characteristics of the sectors, the types of tasks and the results of innovation and R&D activities. At the same time, the textile industry dominates in terms of the percentage (47%) and total number (over 50 000) of workers with medium-level education.

Comparison of Italian employment categories in the TCLF sector, manufacturing and all sectors combined

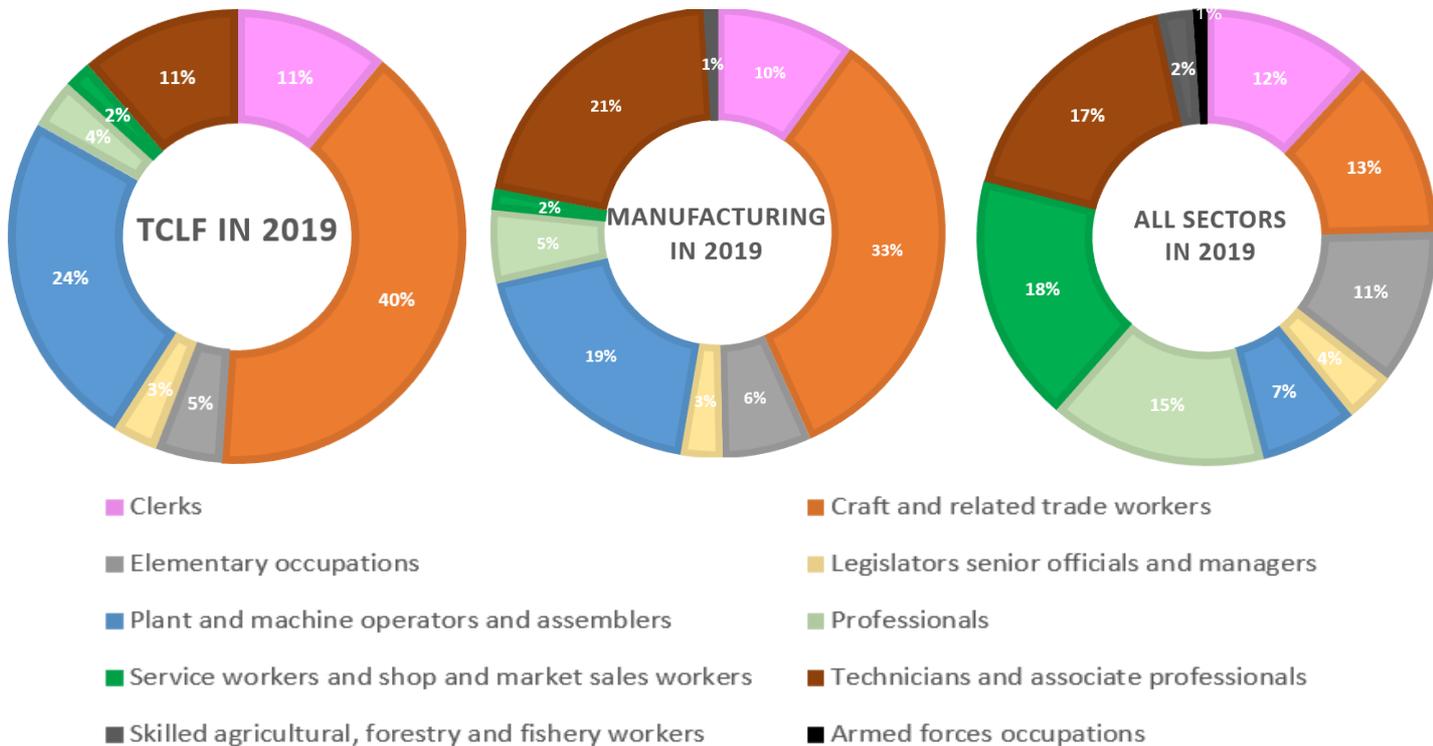


FIGURE 3.20

Source: based on Eurostat data, 2019

Data from Eurostat and the ESCO classification system covering 10 types of occupations were used to analyse the level of qualifications.

In Italy, most of the total manufacturing employment comprises *craft and related trade workers*, *technicians and associate professionals* and *plant and machine operators and assemblers*. These three groups cover almost two-thirds of the total number of employees in the total manufacturing sector (74%).

In the TCLF sector, these three groups are also the most numerous, accounting for 75% of the total, with *craft and related trade workers* accounting for 40% of the workforce. The total number of employees working in the TCLF industries in these three types of occupations reaches almost 315 000.

Compared to the total manufacturing sector, in the TCLF industries there are more *craft and related trade workers*, *plant and machine operators and assemblers* and slightly more *clerks*, while there are fewer *technicians and associate professionals* and slightly fewer *elementary occupations* and *professionals*.

The only categories that have a similar proportion in the TCLF industries to the manufacturing sector and all sectors are *clerks* and *legislators, senior officials and managers*.

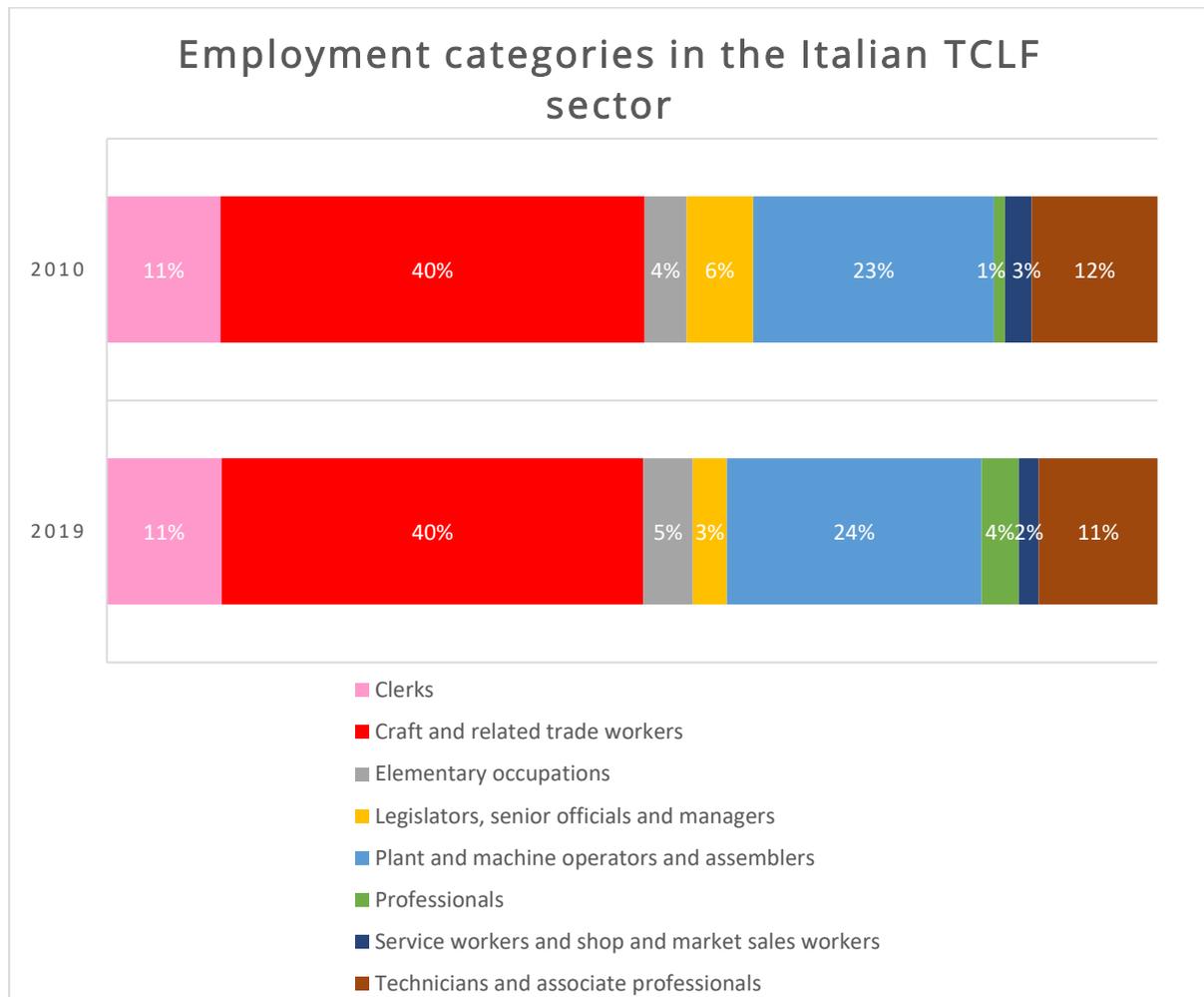


FIGURE 3.21

Source: based on Eurostat data, 2019

Between 2010 and 2019, changes in the TCLF sector were not very dramatic (*Figure 3.21*). The main change was an important increase in *professionals*. Although the difference was rather small in terms of the total number, the percentage increase was significant. This increase also corresponds to the trend towards greater specialisation and the need for a more specialised set of skills and knowledge on the part of employees.

Plant and machine operators and assemblers and *elementary occupations* also increased (+25%) at the expense of *legislators, senior officials and managers*, *technicians and associate professionals* and *service workers and shop and market sales workers*.

Comparison of Italian employment categories in the TCLF sectors

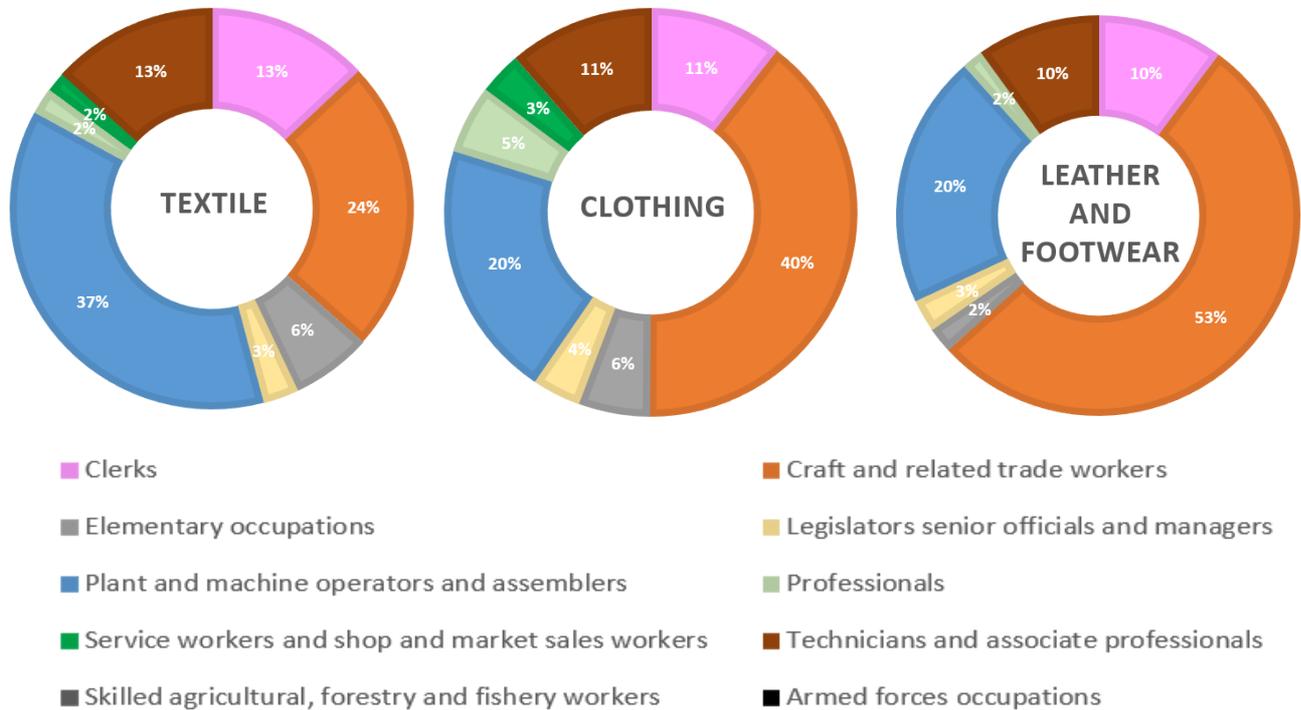


FIGURE 3.22

Source: based on Eurostat data, 2019

Analysing the TCLF sub-sectors individually, we can note the predominance of *craft and related trade workers*, as well as *plant and machinery operators and assemblers*.

The predominance of the first category in the leather and footwear sector is remarkable; in fact, it covers more than half of the employment in that sub-sector (53%), and the percentage is higher than the European one. The *craft and related trade workers* category is also conspicuous in the clothing and textile sectors, presenting values in line with the respective European averages.

The second group – *plant and machinery operators and assemblers* – is just over one third of the textile sector (37%), slightly more than the European average of 32%, while in the other sub-sectors they cover only 20% of total employment, much lower than the European averages in the respective sub-sectors.

The other categories are quite similar, with no particular differences detected, especially for *legislators, senior officials and managers*.

In the textile sector, the percentages of *clerks* and *technicians and associate professionals* are higher, while clothing has more *professional and service workers*, and leather and footwear has a lower percentage of *elementary occupations* than the two other sub-sectors.

The three higher-level occupations – *professionals, technicians and associate professionals and legislators, senior officials and managers* – employ a total of about 75 000 people in the TCLF industries. The highest percentage of this group – 21% – compared to other occupations is in the clothing industry, while the rest have only 18% (textiles) and 14% (leather and footwear) of total employment at a higher level than other occupations.

Between 2010 and 2019, *technicians and associate professionals* decreased in all three sub-sectors, while *craft and related trade workers* remained more or less the same with the exception of the leather and footwear sector (-17%). *Clerks* increased only in the textile sector, *plant and machine operators and assemblers* decreased considerably in textiles and clothing (+41% and +5%, respectively) and increased a lot in leather and footwear (+279%). Finally, *professionals* also increased a lot since 2010, which means that in Italy certain activities in the TCLF industries are evolving gradually, maintaining their structural characteristics and being able to adapt to the new technologies and market trends of recent years, which will lead to the evolution and updating of many professional profiles.

3.6. Skills situation and trends

In Italy, the TCLF industries play an important role in the national manufacturing system, although they have been changing a lot in the last decade, especially due to the advent of new technologies. The big drivers of change seem to be the digital revolution and Industry 4.0, which have initiated a series of transformations that will manifest themselves not only within the production process but also in terms of skills, abilities, knowledge and organisational behaviour.

From textiles to clothing and from leather to shoemaking, all TCLF sectors will be involved in a major process of change that will determine the needs for new skills and the emergence of new professions.

The advent of Industry 4.0 will impact each of the four TCLF sectors with no particular differences, as confirmed by a study by the European Skills Council in 2014. The most important differences will be found in specialist skills related to the use of different technological machines and knowledge of different production processes. For this reason, there will be a greater need for technical and specialised skills in the coming years.

Technological development will require companies to equip themselves with operators who are familiar with the whole process and can interface with increasingly complex machinery and monitor several machines simultaneously.

This will lead to a process of job enrichment that will affect all TCLF sectors and almost all professional roles, making continuous training essential.

From a general point of view, with the advent of Industry 4.0, professionals in the TCLF sector will need to have more knowledge and skills than in the past. In particular, the key element will be the ability to master several areas of knowledge from a multitasking perspective. In addition, there will need to be an increase in managers and operators who are familiar with the business mechanisms as a whole and who know how to connect with different business areas.

Since the TCLF industries will operate in a context of strong demand change and strong international competition, professional profiles within the organisations will have to be strongly interconnected to make the whole process efficient and fast.

Therefore, TCLF industries will have to adopt a production model and new skills that include problem-solving skills, since the whole production is based on adaptive and flexible processes of a non-routine nature.

The widespread adoption of e-commerce platforms may also lead to a change in the organisational structure of companies, in the future-proof skills of the sector and, consequently, in job profiles, making some types of workers weaker, especially those with lower qualifications, such as retail workers¹.

The dynamics of employment and the updating of skills will also have repercussions with regard to the professional figures required for the transformation of the economic system from an Industry 4.0 perspective. The development of cyber-physical systems, the interaction between humans and machines and the reorganisation of production processes will determine a reorganisation of the professional needs of companies. This is a process that will inevitably give rise to the development of new professional figures, the transformation of certain professions in terms of enrichment of the skills associated with the performance of their tasks and the disappearance of certain professions that will be easily replaced by automation or which will become obsolete from the perspective of transformation of the production model. This will lead to an increase in productivity brought about by new technologies and automation, which will contribute to a significant reduction in the workforce employed in traditional assembly functions and, more generally, in all the more routine tasks.

The transformations within traditional blue-collar professions and their reduction in employment will be compensated for by the creation of new professional figures in the IT, data analysis and R&D sectors and, more generally, within those new market areas that will be developed with a view to process innovation.

The employment dynamics in the TCLF industries will undergo transformations in professional needs. As noted, some occupations will be easily replaced by automation, while others will become progressively more essential. On the one hand, some occupations, whose routine tasks are also dangerous to human health, will disappear, such as workers on shoe production machines who

¹ CDP, EY, Luiss Business School (2020), Settore Moda e Covid-19. Scenario, impatti, prospettive.

have to glue different components together or dyers. On the other hand, it is possible to imagine the emergence of more qualified professions such as marketing, logistics and IT in the TCLF sector.

Beyond the greater or lesser presence of certain professions, within individual professional groups, we will see a transformation of the skills and knowledge required. In this transition, professions will become more and more articulated. From this perspective, therefore, workers will be required to undergo a constant process of enrichment of their skills, both technical and transversal skills, with a certain motivational attitude.

Below, we highlight a study by Ares 2.0² that selected some professional figures in the textile-clothing, tanning and leather goods and footwear sectors that will undergo a profound transformation of skills or will even be new.

Managers, in particular *e-business managers* and *customisation managers*, will undergo a process of job enrichment. They will have to be more connected to the production area. In the TCLF industries, strong market competition has made these figures fundamental to meet international demand. In the coming years, *technicians and associate professionals*, especially *system engineers* and *researchers in the textile-leather-footwear sector*, will increasingly have to respond to the needs for process optimisation and strong technological reconversion, without neglecting the implementation of product and process innovation.

Clerks and *service/market sales workers* will also have to update their skills, as more web-related skills will be required, which will become central to all production sectors, as well as IT skills to master the new e-commerce tools. In addition to these skills, an excellent knowledge of English and other languages of emerging countries, as well as interpersonal skills with a view to customisation, will be increasingly necessary. New roles will also emerge that will be transversal with respect to business processes, in particular the *digital media designer* and *distance selling operator*.

In the next few years, there will also be changes for *craft and related trade workers* and *plant, machine operators and assemblers*, who will undergo a strong change due to new technologies. In particular, workers in these jobs will have to interface with electronic devices for the remote control of machinery and new devices adopting Internet of Things technologies, being able to monitor the correct operation of machinery and detect faults early and accurately.

In addition, some figures in the textile and clothing industries will also need to update their skills. *Weavers* will have to integrate their traditional manufacturing skills with digital skills, in particular in relation to new machinery, new quality control devices and digital design tools. Some skills will also change in the clothing and leather sectors, e.g. a *clothing designer* or an *artisan leather tanner* will no longer be able to ignore digital technology but will have to switch from hand drawing to digital drawing on a computer-aided design (CAD) system, integrating more with the marketing and R&D departments, because the fashion product has to anticipate trends, be customisable and

² Ares 2.0 (2018), Le nuove professioni 4.0 nel sistema moda.

relate to innovations in fabrics. Also in the footwear industry, there will be figures such as the *footwear quality control manager* who will have to acquire more skills from an Industry 4.0 perspective and extend their functions. On the one hand, they will have to propose solutions on how to reduce product defects and, on the other hand, have to analyse consumption throughout the product life cycle and adapt it to the customer's orthopaedic needs.

Finally, new professional figures will emerge, such as *managers for environmental sustainability*, capable of responding to the growing attention of the final consumer to environmental sustainability and who will exploit new technology to reduce the impact of production on the health and safety of workers. Moreover, according to the National Institute for Public Policy Analysis (INAPP), after the national health emergency caused by the Covid-19 virus and the risk of contagion within company production areas, professionals will have to learn the numerous protocols and hygiene measures required by health regulations, which implies more complexity in the management of daily work tasks.

4. Drivers of change – Analysis of the external forces shaping the Italian TCLF industries

4.1. Drivers of change – Introduction

Nowadays, companies and their managers are facing many factors that require a response. There are factors that can be considered possible catalysts for change, which can be internal or external.

Internal factors occur within the organisation and are generally under the company’s direct control. External forces include all those factors that occur outside the company but can cause internal change within the company and are, for the most part, outside the company’s control.

Why are external factors important? Because although they are forces that occur outside an organisation, they can have an important influence on future business activities, future growth and projects and long-term economic sustainability. The greatest danger for business managers would be to ignore these external forces, as they would have to continuously monitor and adapt to the external environment.

The external factors that can influence the TCLF sector have been divided into the following seven categories³.



FIGURE 4.1

Source: European Skills Council TCLF report

³ The 7 categories were first identified at the European level in 2014 and summarised in the European Skills Council TCLF report.

Each of the mentioned categories is composed of a group of sub-drivers that are characterised by their strength of influence. It is worth noting that the impact of the main drivers of change can be identified in all TCLF sectors, but their strength of influence may vary. In other words, a sub-driver may be much more impactful in one sector and imperceptible in another. In addition to the intrinsic characteristics of each TCLF industry, the scale of the impact of each sub-driver also takes into account its ability to influence production activities directly or indirectly. For example, the growth of interest in environmental aspects and sustainability may influence the textile industry more positively by creating niche products and technical solutions, while it may have a more negative impact on the leather industry if, for example, plant-based leather-like materials become more widespread. In addition to the specific character of the industry, one reason why the influence may vary is also due to its direct or indirect impact on production.

4.2. Results of the *Skills 4Smart TCLF Industries 2030* survey with companies

We analysed a survey of representatives of 77 Italian companies belonging to the TCLF sector, who were asked which were the most important drivers of change and which drivers have the greatest impact on production, consumption and the world of work in general.

In addition, the companies were asked to indicate the main factors (sub-drivers) for each of the seven categories that are capable of influencing their business and work needs.

Each respondent ranked the sub-drivers according to a scale from 1 to 5, where 1 represented the minimum value and 5 the maximum value of the impact level.

According to the results, the most important drivers are those related to *environmental change* and *a new consumer*, followed by *technological change* factors and values. According to the survey, in Italy, *demographic change*, together with *regulation & governance*, are the least likely to affect production processes in the TCLF sector.

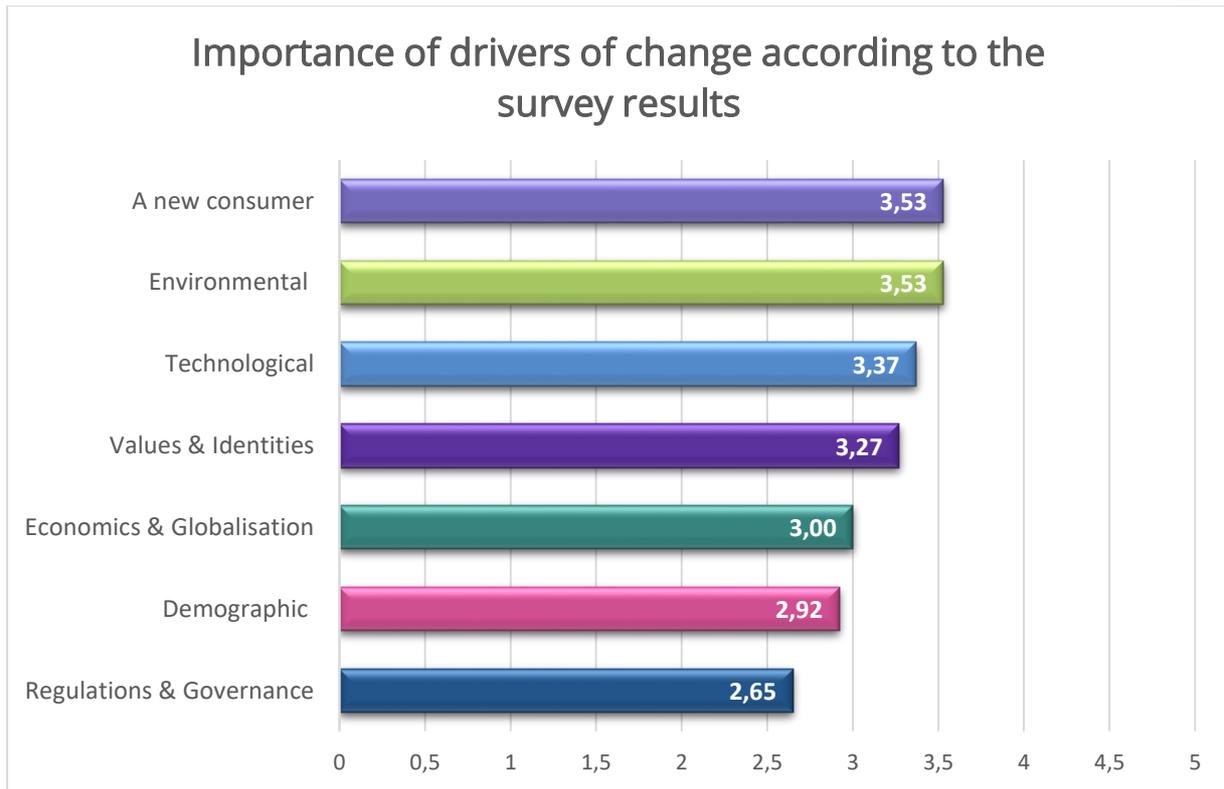


FIGURE 4.2

Source: Internal analysis based on survey results' Skills4Smart TCLF Industries 2030

The survey was conducted at the European level, and therefore companies from other European countries were interviewed. It must be underlined that in Italy, the drivers of change linked to *a new consumer* and *environmental change* were attributed the same high level of importance by companies in other European countries: this means that they are aspects that will have an impact not only at the Italian level, but also at the European level and therefore must be taken into consideration in the implementation of corporate strategies.

Italy, after Romania and Bulgaria, is the nation that attached the highest importance to *technological change*, an aspect driven by the fourth industrial revolution (Industry 4.0). In contrast, Italy is amongst the European countries that attach less importance to *regulation and governance* and *demographic change* (in the latter we are well below the European average).

As previously mentioned, the 77 companies in the TCLF sector had to assign a score from 1 to 5 to the main sub-drivers of the 7 categories. This further sub-division into sub-drivers was created to deepen the macro-environmental analysis and to understand in detail each of the 7 macro-categories previously individuated (they will be analysed in detail in the following paragraph).

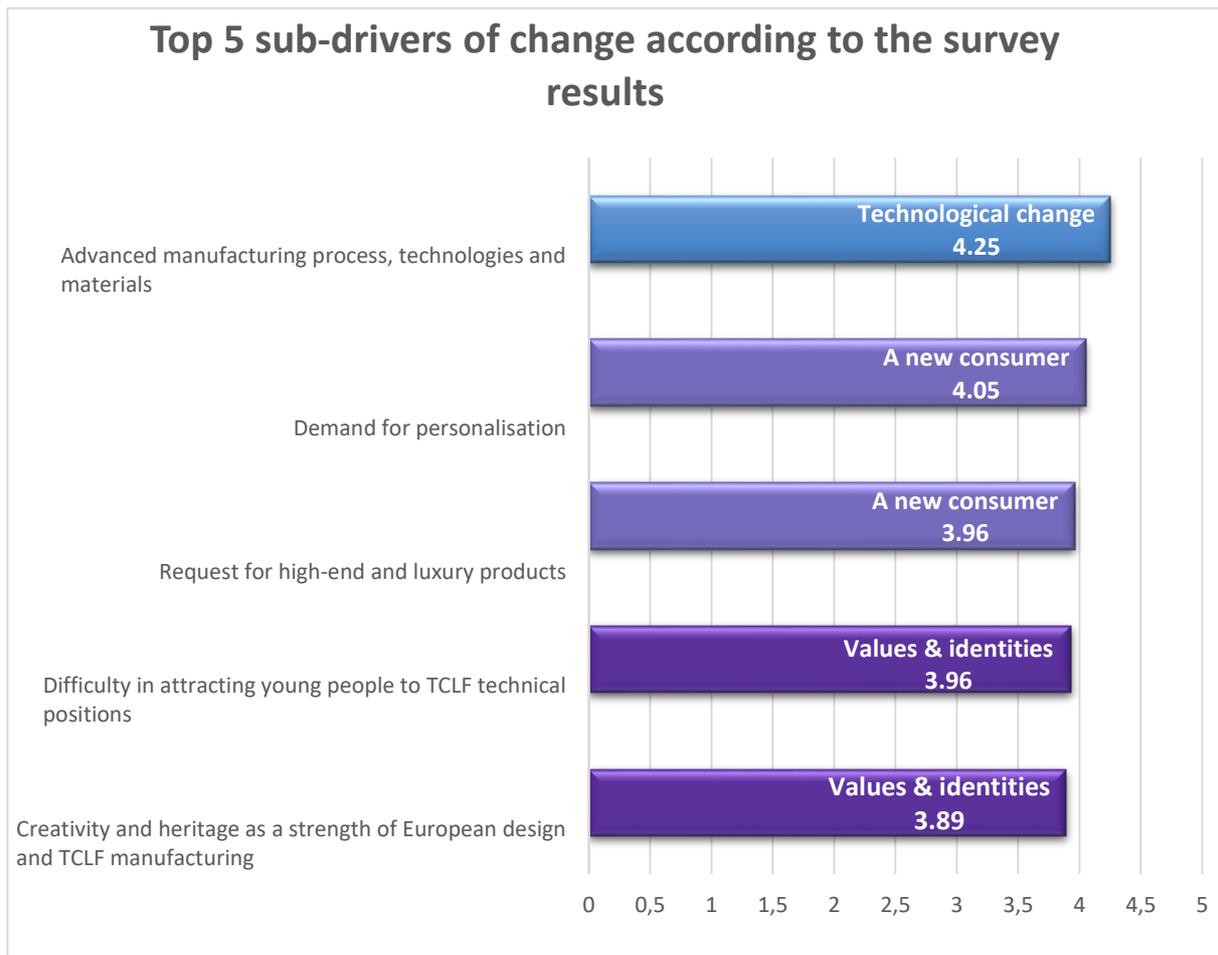


FIGURE 4.3

Source: our analysis based on survey results from Skills4Smart TCLF Industries 2030

As *Figure 4.3* shows, the 77 companies indicated that the 5 main sub-drivers influencing production processes belong not only to the categories of *technological change* and *a new consumer* but also to the category of *values and identities*. In detail, it emerged that the most impactful sub-drivers are advanced production technologies, increased consumer demand for customisation and personalisation of products, demand for luxury products, difficulty in attracting young people for technical positions, especially graduates, and creativity and heritage as a strength of European design in the TCLF sector.

Other important factors were the importance of transparency within the production and supply chains, growing consumer awareness of social and environmental sustainability and greater integration of production processes. In contrast, sub-drivers considered to have little impact were *farming and raw material subsidies*, *Brexit* and the *growth of the second-hand sector*.

4.3. Current drivers of change – Their characteristic, main sub-drivers, and level of influence

Business, as it is conducted today, is dynamic and is influenced by even more dynamic factors, which oblige companies not to underestimate them if they do not want to reduce their level of competitiveness in the market.

These forces can bring changes, in some cases even radical ones, which will lead companies in the TCLF sector to review both their production processes and their strategies, business models and skills, to the point of determining the emergence of new professions.

As described in the previous section, in our analysis, we identified 7 macro-drivers of change that influence business and the TCLF sector. Each of them, for a more in-depth analysis, encompasses a number of sub-drivers that can provide a comprehensive and simplified overview of what the forces capable of influencing production and employment levels in the TCLF sector may be.

For the sake of clarity, we point out that some sub-drivers could fall into more than one category, but for the sake of simplicity, have been placed within a single category.

The analysis took into consideration surveys, interviews, reports, focus groups, market research and workshops with important sector stakeholders.

The selected sub-drivers were divided into the 7 respective macro drivers of change, attributing a degree of importance from a minimum of 1 (not considered very important) to a maximum of 5 (considered very important).

The following graph summarises the complete picture of all the sub-drivers, which have been numbered, analysed and given a degree of importance.

Drivers of change of the Italian TCLF industries

Based on the results of survey with 77 companies & series of workshops with stakeholders

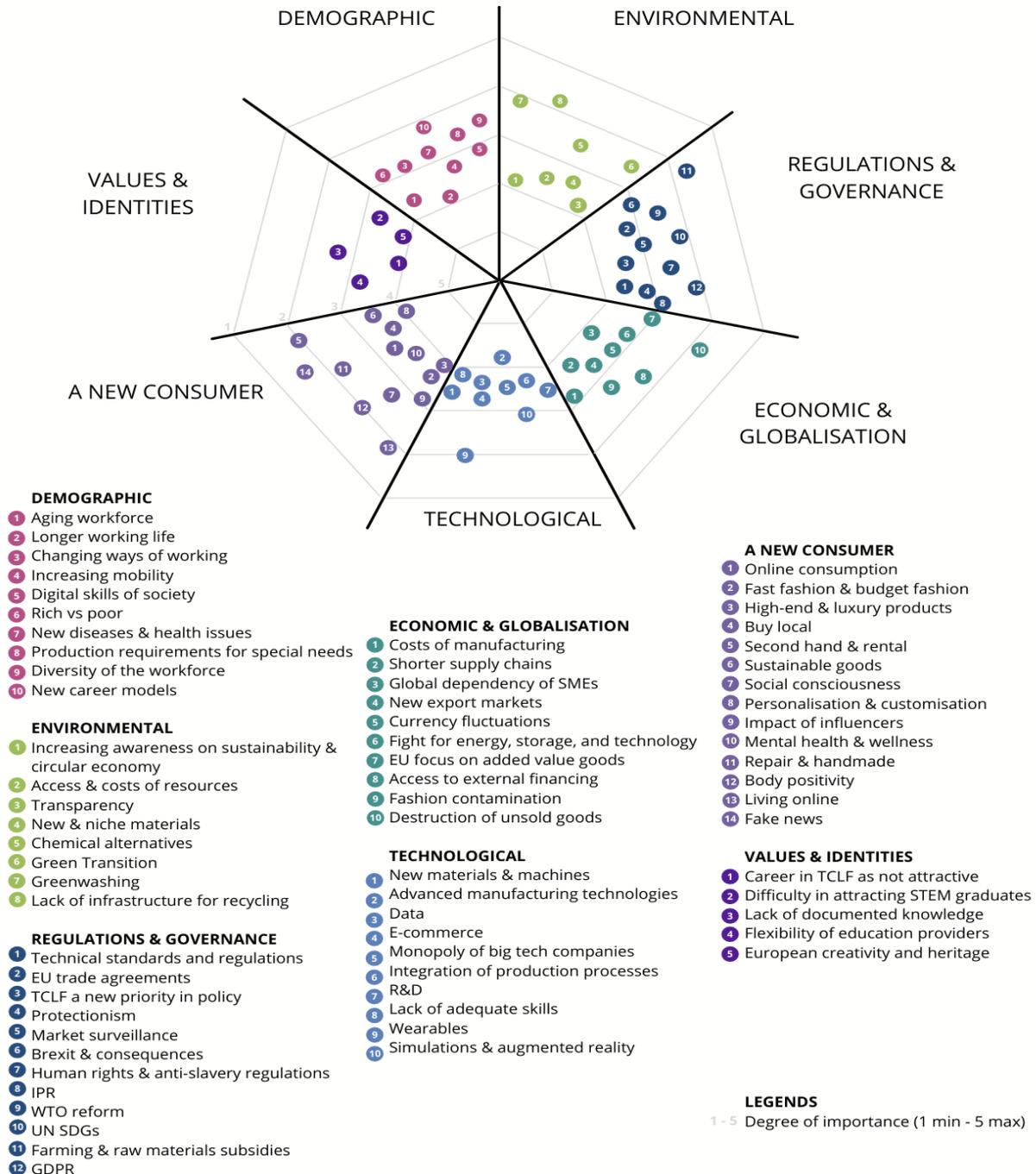


FIGURE 4.4

Source: our analysis based on survey, interviews, workshops and research

4.3.1. Demographic change

The first driver of change concerns changes in the socio-demographic structure of the population, e.g. factors such as the ageing of the workforce in the TCLF sector, diversity in the workplace, increasing digital skills in society, changing TCLF product requirements for an ageing population and increasing living standards.

In the chart below, all the sub-drivers of demographic change have been taken into account, assigning each a degree of importance.

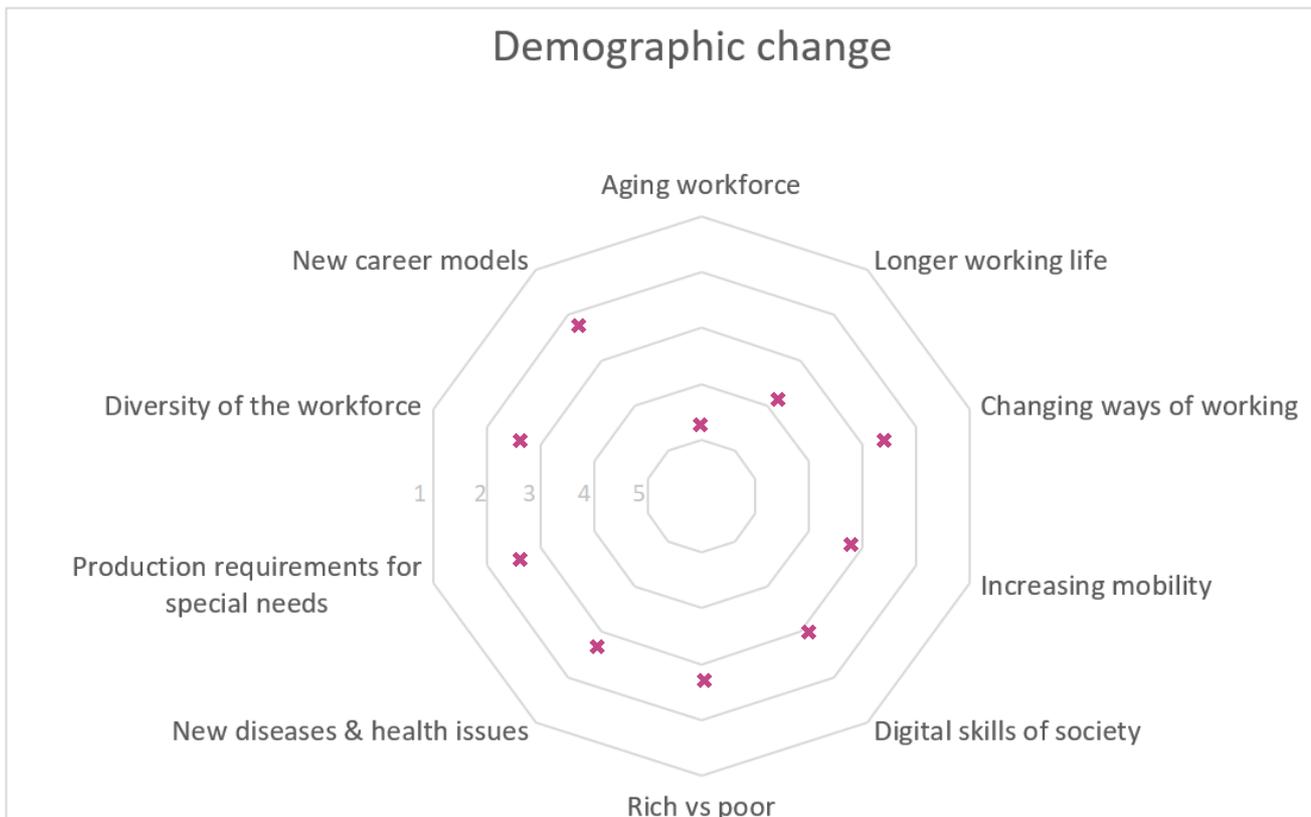


FIGURE 4.5

Source: our analysis based on survey, interviews, workshops and research

The most important sub-drivers in Italy are *longer working life* and the *ageing workforce*, which play a crucial role in the competitiveness of TCLF enterprises. In Italy, the population is ageing rapidly. It is estimated that in 2050, 38.7% of men and 43.9% of women will be over 60 years old, with an increase of about 17 percentage points compared to 2000. This demographic trend, added to the effects of the increase in the retirement age linked to life expectancy, will significantly increase the number of workers in the over 50 age bracket, which currently makes up 33% of the workforce in the TCLF industries, as seen in Chapter 3.

As a result, people are staying in companies for longer, and the age of the workforce is gradually rising: this is transforming the world of work in a profound and irreversible way. The impact of demographic changes on a company alters the idea of productivity, forces a rethink of the relationship between increasingly polarised corporate generations and affects the very values with

which a company is identified. In addition, many workers are no longer able to work or are discouraged from working until the legal retirement age, thus highlighting the lower adaptability to change of the older workforce, not least because, in recent years, digitisation, sustainability and other trends have emerged that require the development and integration of new skills in companies. For this reason, another sub-driver considered very important is the *digital skills of society*, as digitisation is transforming the way we work and live, leading to the creation of new jobs that require new digital skills. In particular, the impact is stronger for those companies based on tradition, requiring all workers to develop or improve their digital skills. This sub-driver is considered very important because companies have to be active and prepared for future job requirements. All these new sub-drivers are pushing towards a generalised process of job enrichment that will affect all the sectors of the TCLF industries and make new career models appear.

There are sub-drivers that are currently not considered very important, but conditions are emerging that may increase their consideration in the coming years, such as increased sensitivity to *production requirements*, *special needs* and the *diversity of the workforce*. Indeed, in the next few years, especially in the textile and clothing sectors, products that meet special needs may appear on the market, e.g. replacing sleeve buttons with Velcro for people with cerebral palsy who have problems with hand coordination or removing scratchy labels from children's shirts for parents of autistic children. Many textile and clothing companies, both new and established, are creating 'adaptive clothing' to meet these needs.

Furthermore, some of the fastest growing aspects in today's society are the importance of diversity, racial equity, social justice and promoting a more inclusive environment for all. In particular, leading clothing and footwear brands are ensuring that they are using the right practices to attract and retain a workforce that is as diverse as the communities in which they live and work.

In conclusion, it can be said that demographic changes do not directly influence the output of TCLF enterprises, but they do impact the workforce and consumer demand patterns, leading not only to the decrease or creation of certain types of products but also affecting the skills to be updated and the high specialisation of the workforce; the latter elements have always characterised TCLF enterprises.

4.3.2. Environmental change

The second driver of change concerns environmental change, which is considered very important in Italy, both for the positive view of consumers about environmental sustainability and its growth and impact on consumer behaviour and for the influence on the other drivers of change, such as technological changes and regulation (e.g. the National Transition 4.0 Plan promoting *green transition*).

We analysed in depth the main sub-drivers of environmental change, scoring each on a scale of importance from 1 to 5 and summarising the results in the graph below.

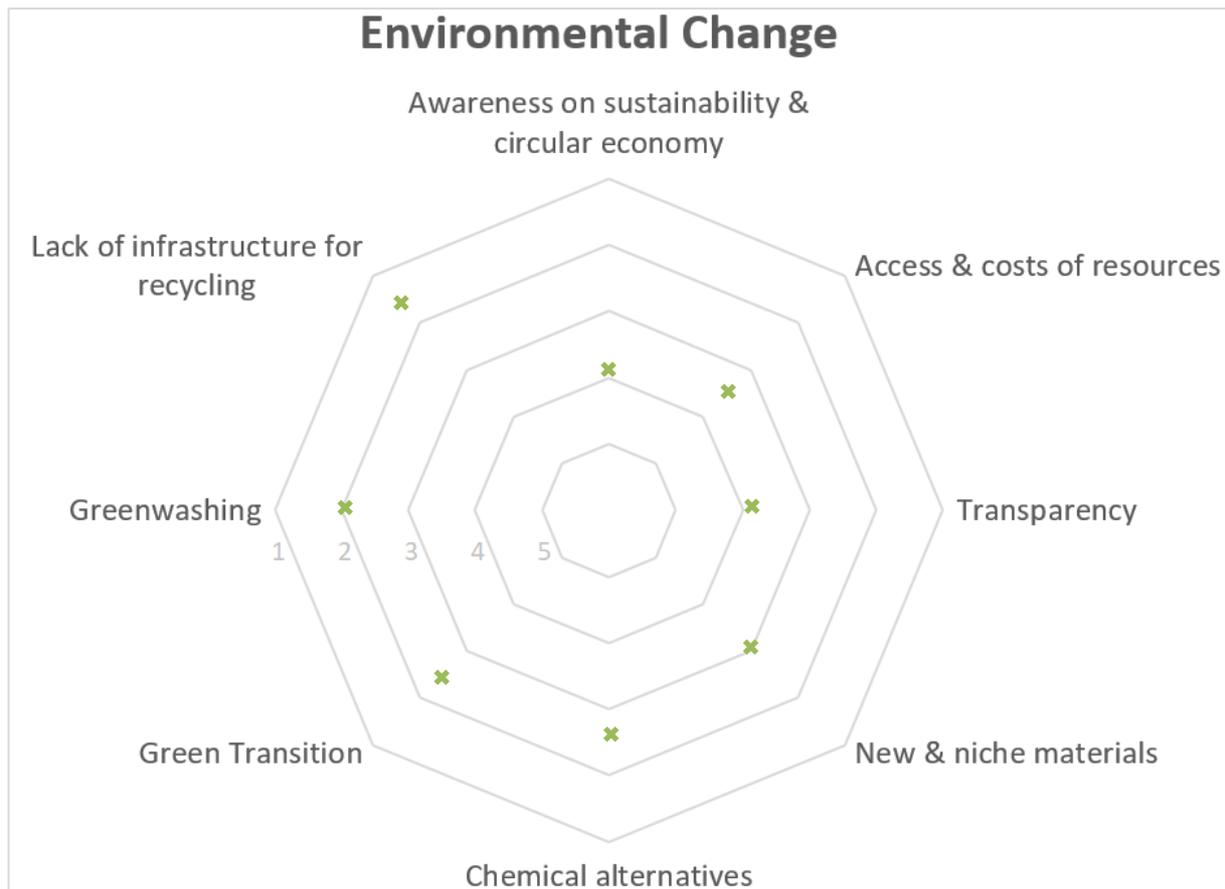


FIGURE 4.6

Source: our analysis based on survey, interviews, workshops and research

With the linear take-produce-waste model of fast fashion, companies in the fashion system have earned a place amongst the most polluting industries worldwide.

For this reason, the most important sub-driver is the one related to *awareness on sustainability and the circular economy*. In fact, growing concerns about environmental issues have opened the way to alternative and sustainable ways of organising production, especially in the textile sector, favouring models such as the circular one. In addition, *transparency* within the production and supply chains is another element judged to be very important, as consumers are becoming increasingly aware of the unsustainable nature of current practices in the TCLF industries. While secrecy appears to be a way to hide abuse, a higher level of transparency in the supply chain could be a key factor in anchoring brands to their responsibilities.

Another important factor is the search for new materials capable of responding to the increasing demand for environmental sustainability from consumers. In recent years, technological innovation has also taken on a priority role in the TCLF sector, increasingly involving all operators in the supply chain. New technologies are leading to a low environmental impact business model to minimise waste processing and reduce energy wastage, leading to a constant search for new technological solutions that will lead to the development of innovative and increasingly environmentally sustainable materials. For example, the Florentine company Run OF is emerging due to its commitment to a sustainable production approach for its sneakers, as they are made by combining waste materials and remaining stock. Other companies, such as Tombolini, are making

products aiming for zero gravity and zero impact, creating totally biodegradable clothes, including not only the garment but also the hanger, buttons and packaging.

Also this driver of change also has sub-drivers that currently have a medium importance but will tend to grow in the coming years, as there is an increasing awareness of natural materials without chemical additives and of waste and its impact on nature and the environment (recycling, reuse, etc.). This factor is becoming a source of debate in many TCLF companies, because many companies are ready to invest in the recycling of second-hand clothes (e.g. there are mountains of textile waste flooding the world), they need to revolutionise their production processes. Furthermore, there are many obstacles to the recyclability of second-hand clothes, such as the presence of chemicals that are now banned. However, especially in the textile sector, chemical treatments in textiles and yarns are very important, because they are used to give softness to the touch, to transmit performance such as water repellency to the fabric but also to make the dyes more stable. For this reason, the sub-driver *chemical alternatives* will become even more important in the coming years, because TCLF industries will increasingly need chemistry to be creative and competitive.

Other sub-drivers are not considered very important yet, such as the phenomenon of *greenwashing*. In fact, very few brands publish annual reports on their production. When they do, they are entirely partial, emphasising the improvements in progress but tending to play down the reality of the situation, which is certainly less positive. In Italy, the sub-driver *lack of infrastructure for recycling* is considered even less important, although it could become important considering that the lack of facilities and infrastructure for waste management could be a serious obstacle to the creation of a truly circular economy that meets the objectives set by the EU. Especially in the textile sector, there is much discussion about replacing virgin materials with recycled fibres, but this requires investment in textile waste collection and selection and recycling plants. At the moment, unfortunately, Italy is still lagging behind on an international level: to date, it is estimated that 87% of the total fibres used for clothing end up in landfill or are incinerated (which is equivalent to burning a rubbish truck full of textiles every second), and only 13% of the textiles are recycled.

In conclusion, environmental change is and will be important not only because it will make TCLF companies move towards the new sustainable trend and look for new solutions in terms of products and materials used, but also because they will affect the workforce in the context of workers' skills and profiles.

4.3.3. Regulations & Governance

The third driver of change analysed relates to *regulation & governance*, i.e. EU trade agreements facilitating access to international markets, certain political factors such as the 'Brexit' phenomenon and its possible consequences, *protectionism* (emerging trade barriers and uncertainties), *intellectual property rights*, *GDPR*, *environmental*, *health and safety regulations* and *technical standards*.

Below are the sub-drivers of *regulation & governance* arranged in the graph according to their degree of importance.

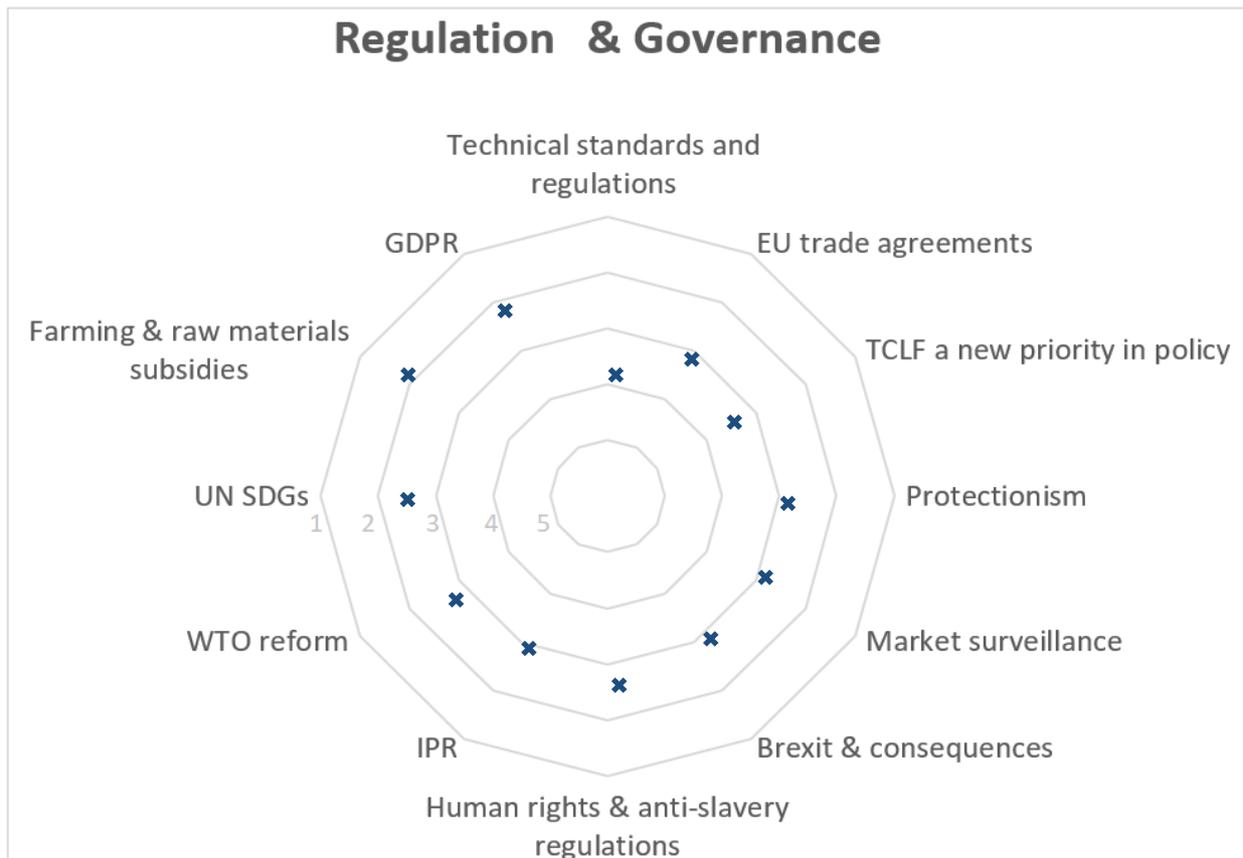


FIGURE 4.7

Source: our analysis based on survey, interviews, workshops and research

As mentioned in section 4.1, the drivers of change related to *regulation & governance*, although visible and apparently important, are not considered by Italian TCLF companies as influential in the production and marketing of their products. Surely the most important sub-driver to be respected is *technical standards and regulations*, which are binding and governed in Italy by the EU Regulation n.1007/2011 which established rules on textile fibre names, labelling methods for textile products, as well as information on labels, markings and documents accompanying textile products in the various production, processing and distribution cycles and the determination of the fibre composition of textile products by quantitative analysis of binary and ternary textile fibre mixtures. This aspect was considered very important, too, because some regulations serve as a tool to combat unfair competition and counterfeiting.

For example, in the leather sector, the regulation imposes an obligation to label the composition of products referring to 'leather', 'tanning', and 'fur', sanctioning operators who fail to provide this information to the consumer. This measure updates the regulation dating from the 1960s with reference to new materials on the market and protects businesses in this sector from the threats of unfair competition and counterfeiting that are widespread in the leather and fur sectors.

Another sub-driver considered important is the one on policies aimed at favouring TCLF industries, which are considered fundamental for the recent Decree Law 99/2021, called 'Fisco-lavoro-Imprese', which intervened with the confirmation of extraordinary social shock absorbers for the TCLF sector, also extending the layoffs freeze until 31 October 2021. In addition, companies belonging to the TCLF sector will be able to take advantage of the tax credit (R&D tax credit, D.L. 190/2014, paragraph 35, art.1) to encourage investments in new or significantly improved or modified products to maintain an adequate level of competitiveness in the market.

Other sub-drivers have not been considered important so far, but in the future they will be more and more important and will influence some phases of the production processes, especially the *UN SDGs*, which are linked to the driver of change analysed in the previous section (*Environmental change*) and concern sustainable development objectives. For example, in the textile sector, there is a growing debate on whether to adopt stricter legislation on textile waste management, making separate collection, sorting and recycling compulsory. At the European level, for example, under the new EU Waste Framework Directive, all Member States will be required to collect this type of waste separately by 2025. Not only that, but Italy has transposed the provisions of Directive 851/2018 with Legislative Decree no. 116 of 3 September 2020, anticipating the deadline set out in the directive and providing that a system of separate collection of the textile fraction of urban waste must be established by 1 January 2022.

Another sub-driver not particularly important for the moment but that will be in coming years, is *human rights & anti-slavery regulations*. Recently, the Zan law has been proposed in Italy, which aims to protect people from discrimination and violence on the grounds of sex, sexual orientation, gender, gender identity and disability. Not only that, but new coalitions are springing up to demand that big brands and fashion distributors pay textile workers fair salaries. *Campagna Abiti Puliti*, one of the 14 national coalitions of the Clean Clothes Campaign in Europe, launched the #PayYourWorkers campaign.

Other sub-drivers, such as *GDPR* and *farming & raw materials subsidies* were not considered important compared to all the others, as they are not able to directly influence employment issues or workforce flows.

4.3.4. Economic & Globalisation

This driver of change relates to the globalisation of economic systems and the interconnection of economies. In order to analyse in depth the complete framework of this category, sub-drivers related to rising production costs, increasing new export markets, supply chains, a European focus on value-added products, expensive access to external finance and destruction of unsold products have been considered. Again, many sub-drivers can be linked to the drivers of change in regulation and consumers, but they have been included in this category for a clearer analysis.

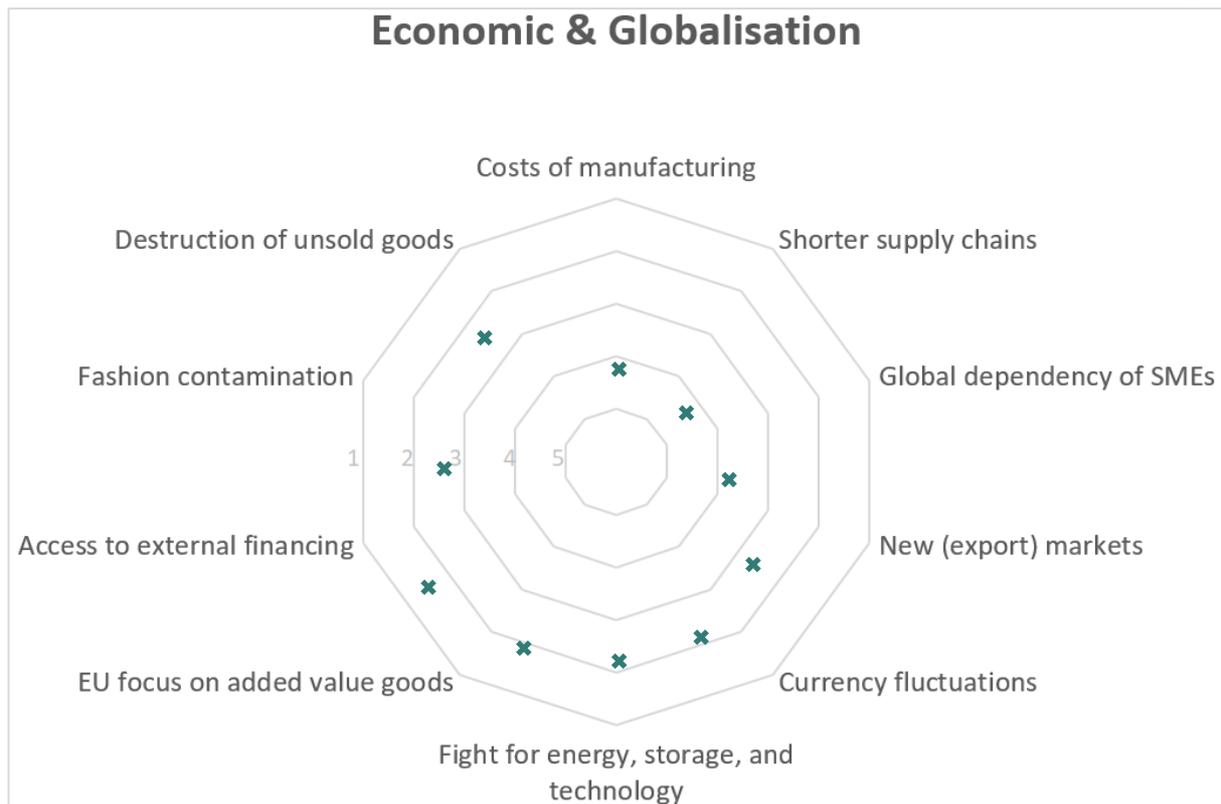


FIGURE 4.8

Source: our analysis based on survey, interviews, workshops and research

The most important factor from the survey was *global dependency of SMEs*. In fact, the TCLF companies are characterised not only by their small and medium size but also by their wealth of both highly technical skills useful for the material production of leather fashion accessories and footwear and intangible skills, ranging from the dimension of planning and design to the ability to network and create synergies at the global level with large international brands. It is a relationship of interconnection that is considered very important, especially by the representatives of the companies interviewed, as it is considered a necessary factor for the survival of their businesses.

This discourse should be linked to another sub-driver considered very important: *shorter supply chains*. In fact, in Italy, the TCLF sector is structured along small production chains, where companies have accumulated highly developed and widespread internal know-how, such as the Prato textile district. This factor is crucial for making production processes more efficient and enhancing human skills.

All this is important because it relates to innovation and development for further recognition in Europe, but also in the world, of the 'Made in Italy' brands, based on quality, delivery times and proximity of the products to the preferences and needs of the final consumer. These sub-drivers generate pressure on the producers of the Italian TCLF industries to confirm 'Made in Italy' as high value-added products.

Another high-impact sub-driver in the Italian fashion system is the dimension of production cost, which is a very important condition for staying in the market. The cumulative increase in the prices of raw materials and their transport ultimately affects the entire production chain. For example,

the last few months have seen sharp increases in the cost of transport and the customs clearance of goods. We must not forget that the production of textile raw materials is now mainly located in the Far East (this is true for practically all products) and therefore, the costs of the movement of goods and related customs operations are having a major impact. We are referring to imported products that are therefore subject to customs control and related customs clearance. It is estimated that, in this specific step, the impact on final costs is between €0.10 and €0.20 depending on the origin of the raw material itself. The third worrying increase is the cost of plastic. In the textile sector, at least 70% of the yarns are spun on plastic cones so that they can be used properly on weaving looms or knitting machines. In this case, the increase was around 30% compared to the end of 2020 (ranging between €0.05 and €0.10 depending on the yarn).

Finally, we underline that the sub-driver *destruction of unsold goods* is currently not considered very important but could become so in the coming years. Today, in Italy, the collection of textiles is done by some administrations and generates about 130 000 tonnes per year. Separate collections find their outlets in reuse, in recovery in the form of industrial pieces or padding and only to a small extent in the recycling of quality natural fibres (wool and cotton).

4.3.5. Technological change

The drivers within this category are the most important for Italian TCLF industries. This driver of change has been varying the most, as it is affected by the fast pace of change of technologies. We suppose that its influence will increase in coming years.

Also, in this case, sub-drivers were identified to describe better in detail the reality and context of these changes. These include *new materials and machines, advanced production systems, integration and information sharing of production processes, R&D in the TCLF sector, the rise of online sales* and the *importance of data and augmented reality*.

The importance of the individual sub-drivers is represented graphically below, with the usual value scale of 1 to 5.

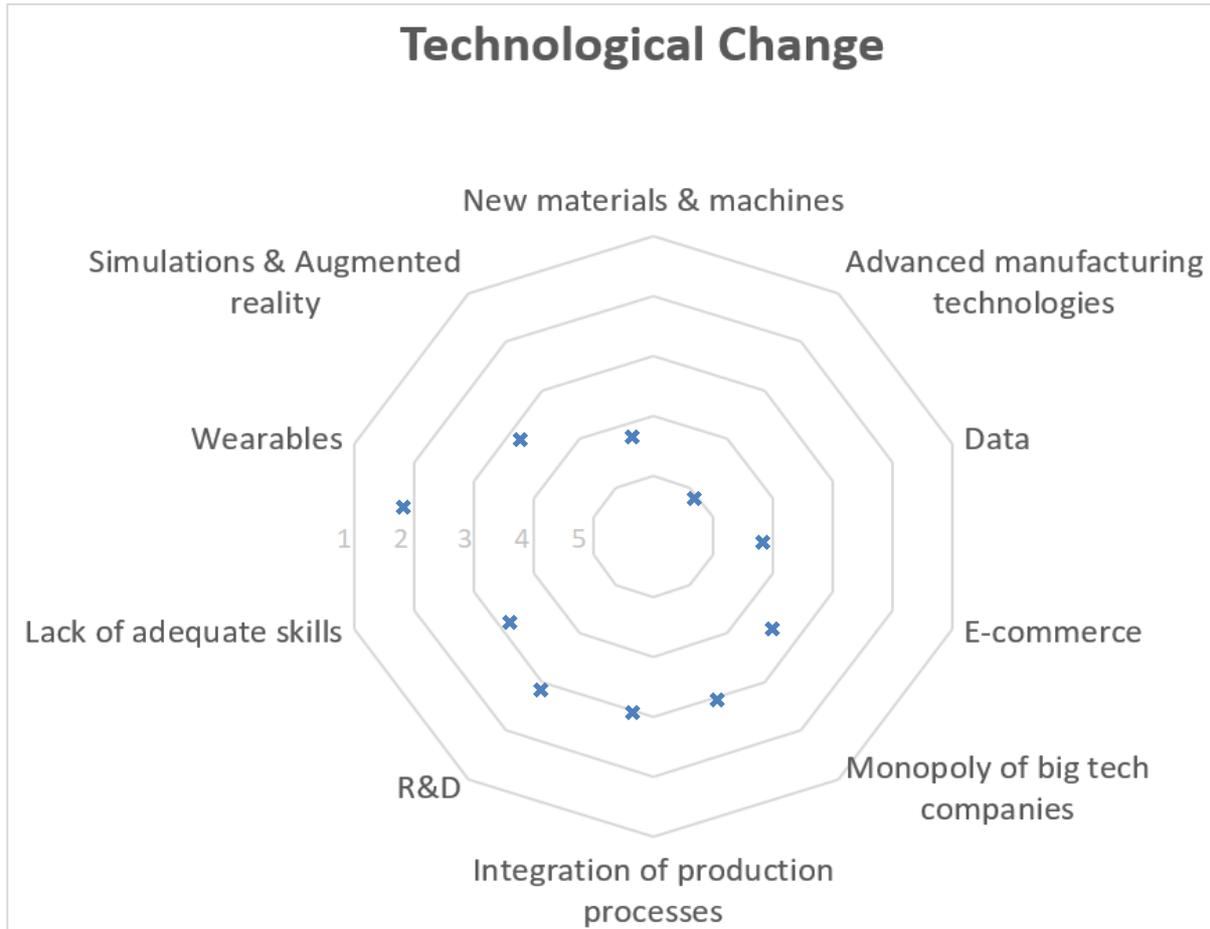


FIGURE 4.9

Source: our analysis based on survey, interviews, workshops and research

The most important sub-driver is *advanced production technologies*, especially since technological development and the activation of public policies have changed production processes towards greater efficiency. But why is this sub-driver so important? Because the greatest limit to the full deployment of technological opportunities is the speed with which the system will be able to adapt and transform itself by exploiting the potential of technological innovations in a systemic manner, structuring new methods for designing processes and combining information.

It is no coincidence that this factor was considered by the Italian companies interviewed to be the most impactful and the one to be considered most in order to succeed in evolving and remaining competitive in business. Technology has and will have a strong impact on all sectors, so TCLF business managers will have to adopt a chameleon-like approach and adapt to the constant changes imposed by technology. Staying put would mean staying a step behind competitors or even disappearing from the market; companies know this very well and therefore consider this sub-driver to be the most important one.

To give an example of the advantages that the use of new technologies could bring, think of CAD and CAM2, which allow the production of high-precision products that are flexible to the needs of the moment and easily customisable according to customer needs.

Not only are advanced manufacturing technologies considered important but also elements represented by the evolution of materials, the introduction of new machines and new digital design tools: these sub-drivers are fundamental to increasing the competitive strength of companies belonging to the TCLF industries.

In the last decades, technological innovation has acquired a priority role in the textile and clothing sector, involving more and more operators in the supply chain. This aspect is becoming so important that in July 2021 Milano Unica paid special attention to this evolution, choosing to continue further along the path undertaken in 2020 with the creation of the new 'Innovation Area', responding to the growing need for product, process and service innovation, now essential for every manufacturing company.

In parallel with new technologies and innovation driving new materials and machinery, we are also noticing the growth in importance of a phenomenon that is transforming the TCLF industries. The collection and analysis of *data* is accelerating the slow process of modernisation in the TCLF industries, bringing strategic and fundamental information to companies operating in these sectors. Big data can identify future trends and new styles, see fabrics and colours more requested by the market more quickly, and thus enable companies to sell more. For example, Tommy Hilfiger has partnered with IBM and the Fashion Institute of Technology for the 'Reimagine Retail' initiative to use artificial intelligence tools to decipher fashion trends in real time, customer sentiment towards Tommy Hilfiger brand products and summarise the most popular trends in patterns, colours and styles. In addition, big data can be used to find the most popular designers amongst consumers who have not yet attracted the attention of the big brands, to create marketing communications that are better suited to their target audience, to profile customers and to find new ways to offer increasingly customised customer experiences. This sub-driver will also have implications in other categories too, especially the environmental and new consumer categories. For example, in the first case, the advanced capacity of data will lead to the elimination of the use of paper, allow remote control of the production process and consequently the reduction of emissions produced by people's movements; in the second case, new potentialities of big data analysis are being experimented with: for example sensors that monitor usage styles can be inserted into clothing and footwear to allow the production of goods optimised to the life cycle of the end user. From this perspective, it is possible to respond to the needs of personalisation of products both in the design and the monitoring phase.

It is clear that following these considerations, *data* is considered the third most important in this category, especially as it will tend to grow. TCLF companies that do not take into account the potential and advantages that big data can offer will lag far behind companies that do. This consideration is also valid for another sub-driver: *e-commerce*. The rapid development of e-commerce in recent years has helped to revolutionise the retail market and the way TCLF companies sell. In this context, and with global Internet penetration set to double in the coming years, *e-commerce* is increasingly becoming an indispensable tool for businesses, both in increasing their sales volume and in reaching new markets.

Although the sub-driver *augmented reality* was not considered very important by the interviewees, it is likely to become more important as a point of conjunction between the most advanced technology and design. In the clothing sector, it will be possible to digitise one's own collections or

request samples or place orders online through the virtual showroom. All this will be in line with a green logic, drastically cutting down on the waste and pollution produced by sampling. In the textile sector, for example, it will be possible to choose and modify fibres, observe fabrics in 3D and create hi-tech fabrics for the world's leading fashion designers. In the footwear industry, apps are being created, such as Wanna Kicks, which allow you to see the most popular trainer models on your feet.

All these sub-drivers have an enormous impact on all Italian TCLF sectors, which are characterised by strong international pressure and the continuous need to remain competitive by producing added value.

The various forces of technological change are impacting the system of professions and will increasingly do so. Some will disappear, others will be profoundly renewed, and others will be replaced by entirely new profiles, because technological development requires companies to equip themselves with workers who know the whole process and who know how to interface with increasingly complex machinery able to monitor several machines simultaneously. This necessarily leads to a strong need for workers with strong technological skills, which is the second most important sub-driver in this category, not by chance.

4.3.6. A new consumer

This driver gathers the factors connected to changes in consumer demand as the *new consumer*, which is considered a very important driver of change for the Italian TCLF industries. This driver is crucial for the whole analysis, because it is the one most connected to the other six drivers, as it is able to impact environmental aspects, new technologies, values and even regulations (e.g. GDPR) too.

Consumer change also has a strong impact on companies' strategies, products, marketing and communication activities and production processes. For example, how can a company ignore growing consumer awareness of environmental issues? It would mean going out of business!

To better understand the dynamics and characteristics of these changes, we have identified 14 sub-drivers and attributed the force of their impact.



FIGURE 4.10

Source: our analysis based on survey, interviews, workshops and research

The most important sub-driver is *personalisation and customisation*. As Giampolo Fabris said, our age sees the consumer as someone who is less and less willing to conform to others and who therefore, in the process of choice, asks for products that respect their individual uniqueness. It is important to note how this change in personalisation affects the way in which companies interface with consumers. Customising and personalising, in short making the garment you wear unique, seems to be worth more than the product itself.

In the last few years, there has been a growing tendency for consumers to have unique pieces, which is why companies are looking for solutions for offering original, exclusive and different products that will retain customers and satisfy their ego. As mentioned, this category of sub-drivers is the one that is most connected with the other drivers of change; in fact, the sub-driver of customisation is strongly connected with that of technological change. In this sense, digital technology offers great opportunities, both for the realisation of products with increasing quality and in terms of customisation and adaptation to the final customer's requirements. For example, CAD and CAM2 technologies make it possible to create products that are flexible to the needs of the moment and that can be easily customised to the tastes of the end customer. It must be emphasised that many companies are going beyond the omnichannel concept, because now they aim to engage the customer in real time through the value chain of commerce that is everywhere. In this context, personalising the customer experience remains a top priority for retailers aiming to innovate their business models over the next five years. Following the latest trends in IDC Retail

Insights on retail innovation, more and more companies are moving beyond the 'segment of one' through real-time contextual experiences, with 20% of fashion and apparel companies already implementing such strategies.

The personalisation sub-driver is also linked to another sub-driver: *data*. Indeed, in coming years, personalisation and prediction will proceed at the same pace. With more and more data, algorithms will become trend hunters, predicting (and designing) new things in ways unthinkable until now. The True Fit platform, for example, came up with the idea of using big data to facilitate the ability to perfectly recommend clothing and shoes to customers. The platform uses transaction data to determine preferences and create specific paths with a very high feedback rate. Increasingly, consumer preferences will drive every aspect of brands' design and production processes. Platforms such as True Fit can help identify the types of materials buyers prefer or even identify when to increase sourcing in certain areas of the world and for predefined clusters to optimise production, making companies, large or small, faster and more responsive to change.

There is another very important sub-driver: *high-end & luxury products*. In the luxury sector, excellence and continuity of service and experience are two important differentiators that today, in the new normal of retail, require deeper insights, greater agility and a superior customer experience. For luxury brands, the time has come to review their growth and customer retention strategies. Reputational factors, such as product and brand recognition, quality of materials and processes, design and ergonomics, are key elements that help determine consumer choice and business success.

Other important sub-drivers are those related to *sustainable goods* and *social consciousness*. As Jean-Jacques Lambin said, in today's world, consumption is becoming more and more careful and respectful of others and the environment, with the possibility to consume without guilt. Today, sustainability has become a salient issue within the TCLF industries, with some estimates suggesting that the market for sustainable fashion is set to more than double in the next 10 years or so, as consumers become increasingly aware of the environmental and social impact of these industries and the materials used (conscious fashion report). Consumers are increasingly looking for vegan leather, faux leather and environmentally friendly fabrics, a sign of increased consumer awareness of social and environmental aspects. For this reason, it is important for companies to meet this new consumer awareness. In recent months, Prada has abandoned the fur market, Wineleather – the first biomaterial made from wine waste – has come out, as have vegetable leather extracted from cactus leaves and trainers made from apple waste.

Other important sub-drivers are online consumption and the *impact of influencers*. According to *We Are Social*, Italians spend an average of 6 hours a day on the Internet, and almost 90% of them access it via mobile, yielding much data that companies should consider and very often underestimate. If people spend more time online, they spend less time offline. In addition, purchasing and consumption processes are changing. If up to 10 years ago online sales were only a sales channel for very few companies, in today's world those who do not sell online are out of touch with modern market dynamics. Consumers used to only buy offline; now they are starting to buy online; and even if they buy offline, they might be influenced by the online world, especially by the social world – the realm of influencers. Especially for younger consumer groups, but in general for people who frequent social media like Instagram, influencer marketing is very

important. Between 2019 and 2020, the impact of influencer marketing in sales promotion for fashion and luxury brands increased by 18% and is set to increase. Influencers such as Chiara Ferragni (18 million followers), Chiara Nasti, Chiara Biasi and Veronica Ferraro not only talk about the products of clothing or footwear companies with their posts and stories, but also influence their followers to buy them. If, on the one hand, the Internet and social media have changed the purchasing process, bringing it closer to the concept of 'I'll buy it because the influencer recommended it to me' as part of a social circle, on the other hand, consumers are becoming lazier and more demanding of companies. As Seth Godin said, the mobile Internet is the height of weirdness, because in addition to extreme individualisation (just me), there are the dimensions of time ('I want it now' or 'I do not want it ever') and place ('I want it here' or 'I do not want it here'), which are all factors that complicate the context in which companies in the TCLF industries operate. For this reason, these changes are having a major impact on the dynamics of companies, which have to optimise their processes to respond quickly to new requirements.

Finally, another trend that is not currently considered very important by the survey, but in our opinion will be in the coming months, is *second-hand & rental*. Many experts are betting on 'fashion renting', a phenomenon that comes from America, which has become very popular in China and the United Kingdom and is recently exploding in Italy as well, where it promises to revolutionise the wardrobes of Italian residents. In the last 3 years, it has been one of the fastest growing businesses, growing 21 times faster than the traditional clothing market. That is why brands will most likely have to adapt by proposing the sale of second-hand clothes next to new clothes. Brands will not only gain additional profits, fuelling the perception of quality, but will also increase customer loyalty through various incentives. It is estimated that resale will double in the next five years, reaching a value of 64 billion dollars by 2024.

In conclusion, companies in the TCLF industries have to continuously consider trends, as their business activities are dependent on changing consumer demands. With the advent of the Internet and certain attitudes, companies must be able to offer a good product, requiring not only a high level of commitment at different levels of the supply chain but also good service to meet expectations. Therefore, these changes directly affect production, due to the creation of demand, and indirectly also the number of employees, e.g. due to the positive connotations created by the TCLF industries through satisfied consumers.

4.3.7. Values & Identities

The last driver of change brings together groups that focus mainly on the dynamics created by individuals within groups. This driver of change is not strictly related to consumption patterns but more to family structures, attitudes towards government, society, education and other general aspects and approaches towards the role and value of the TCLF Industries.

As this driver is very broad and subject to various interpretations compared to the others, the analysis identified only 5 specific sub-drivers, attributing a scale of importance ranging from a minimum of 1 to a maximum of 5.

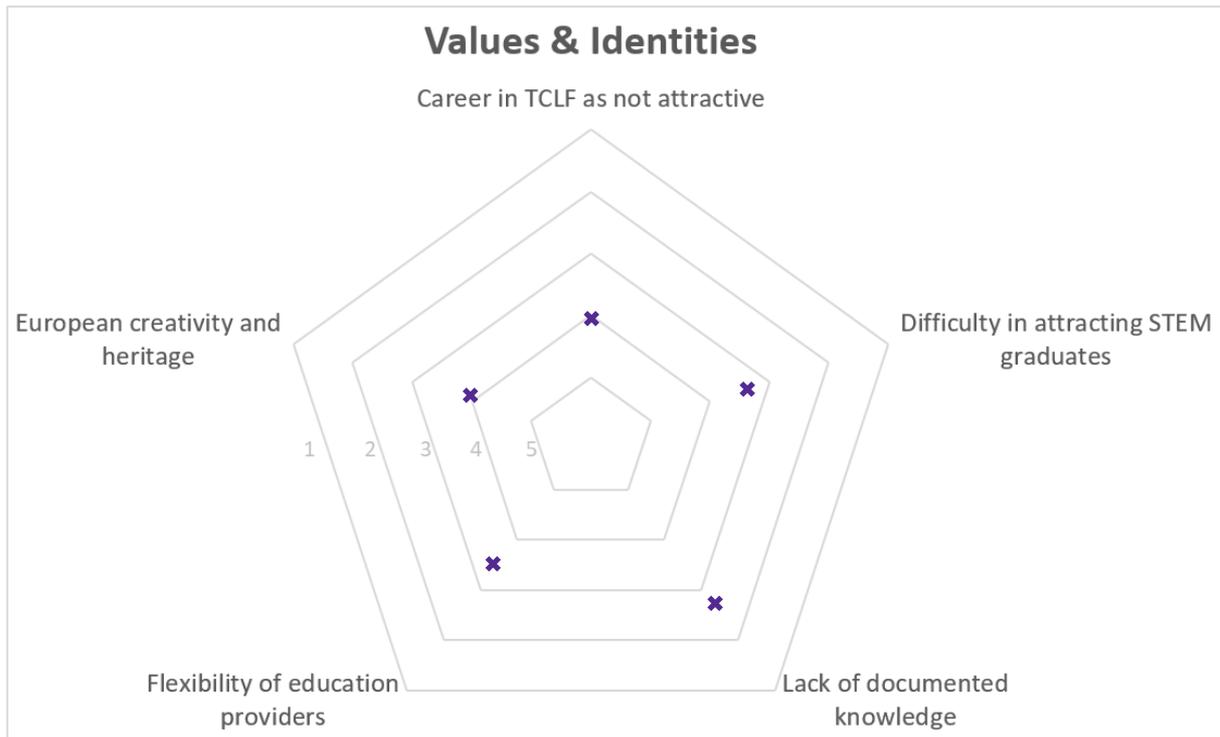


FIGURE 4.11

Source: our analysis based on survey, interviews, workshops and research

Citizens' values and identities also influence their attitude towards work in the TCLF industries and consequently can influence the dimensions of the labour market through the choices of young people and people with work experience. Even if the position of the Italian TCLF industries in the European and world markets is absolutely indisputable, for many Italians, working in companies belonging to the TCLF sectors is not considered desirable. This discourse leads to the sub-driver considered most important, which relates to the difficulty of attracting young people to technical professions in the TCLF industries. The problems of the low attractiveness of the sector (to be considered at the European level and already receiving attention from the European Commission [EC]) will increase with the forthcoming exit from the market of specialised technicians due to a physical generational change and the need for new skills to support the technological evolution of the TCLF sector, as seen in the previous paragraphs. A strategy capable of responding in the best possible way to short- and medium-term needs but which also has a long-term vision is urgently needed.

Another important sub-driver is certainly that of attracting science, technology, engineering, mathematics (STEM) graduates, who are not very interested in entering into the realities of work where there is a widespread opinion that only technical and low-profile jobs exist. In general, it is true that there is a strong presence of job profiles with a low level of education in Italian TCLF industries, precisely because Italy, compared to other European countries, has a strong manufacturing vocation. However, companies are beginning to realise that this factor could be a weakness in the *digital transformation* underway, which is shifting the level of skills upwards. For this reason, awareness of the opportunities in the TCLF sector should be raised, and certain key operational figures should be upgraded through formal recognition of their professionalism. Parallel to this sub-driver, *flexibility of education providers* is also considered very important. In

fact, there are no specific university courses for textile manufacturing (the last courses in Bergamo and Biella have closed). This has led to a loss of specific know-how that is important for companies and a decline in attention towards an industrial sector that is fundamental for Italy. Therefore, the issue of technical training becomes important for the education system, which is a bridge between the needs of businesses and the school system. This issue has already been highlighted by the Senate Labour Committee, which stressed the need to upgrade both the content and the socio-cultural image of technical education courses. Therefore, the educational offer should be strengthened in terms of both quality and quantity, taking into account the image of the institutes and the related professional profiles. The education system will also have to take into account the fact that the gap between intellectual and technical professions will tend to narrow. On the one hand, technicians will have to acquire more scientific knowledge, especially on new technologies, and on the other hand, graduates will have to be able to put into practice the theoretical knowledge acquired during their studies in order to be able to interact better with their technical colleagues. It will therefore be increasingly important for schools to be more flexible and to develop training programmes that provide both technical knowledge and cross-disciplinary training to attract and bring together both technicians and young graduates.

Finally, another important sub-driver relates to European creativity and heritage. In Italy, the relationship between the creative and manufacturing industries has been increasingly close and rooted over the years both in the creation of the value generation process of products with high-quality content and in the more creative aspects that make the design of the products unique. Companies in the Italian TCLF industries are closely linked to the more generalised concept of 'Made in Italy', a brand that labels products that express excellence in creativity and craftsmanship. In other words, they stand for luxury goods renowned for the quality of their fabrics and for the elegance and refinement of their construction. Many European high-end brands (particularly French and British) also rely on Italian craft factories, located in highly specialised areas of North-Central Italy (Tuscany, Marche, Veneto and Piedmont), to produce parts of their clothing and leather goods. In this sense, this sub-driver is considered important because Italy represents a heritage of excellence in craftsmanship and creativity, which is a strong point of European design and manufacturing in the TCLF sectors.

4.4. Covid-19 impact on the TCLF industries

After identifying the 7 categories of drivers of change and their 69 sub-drivers to deepen the investigation, it was necessary to analyse the impact that Covid-19 is having and will have on the TCLF industries. In Italy, the TCLF sector was amongst the most exposed to the effects of the Covid-19 crisis, second only to the hospitality and tourism sectors. In Spring 2020 alone, TCLF production fell by 81% year-on-year.

Therefore, in addition to the factors examined in the previous paragraphs, the economic, social and financial crisis caused by the Covid-19 pandemic has accelerated certain phenomena and created new paradigms, especially since the TCLF sector has been paralysed in its production times due to drastic decisions dictated by the government in an attempt to contain the spread of the pandemic. These decisions had an immediate effect on the pace of sample releases and on the restocking of production in the shops, thus staggering all process timelines. This emergency, although necessary for health reasons, ended up having a significant impact on the rhythms and times of the Italian TCLF industries.

It is still difficult to identify the impact, as the pandemic and its consequent effects are not yet over, but this analysis has suggested other possible sub-drivers for each of the 7 categories identified, also assuming that many sub-drivers will tend to increase or decrease in importance directly or indirectly due to the Covid-19 effect.

The pandemic and some existing distancing rules are developing ever-new consequences, which it would seem foolish to fix in a static frame as if everything were already over, but it is important to start analysing the damage and changes the pandemic has caused, with the risk that what is analysed will quickly become obsolete.

Below is a figure that brings together all the considerations just described.

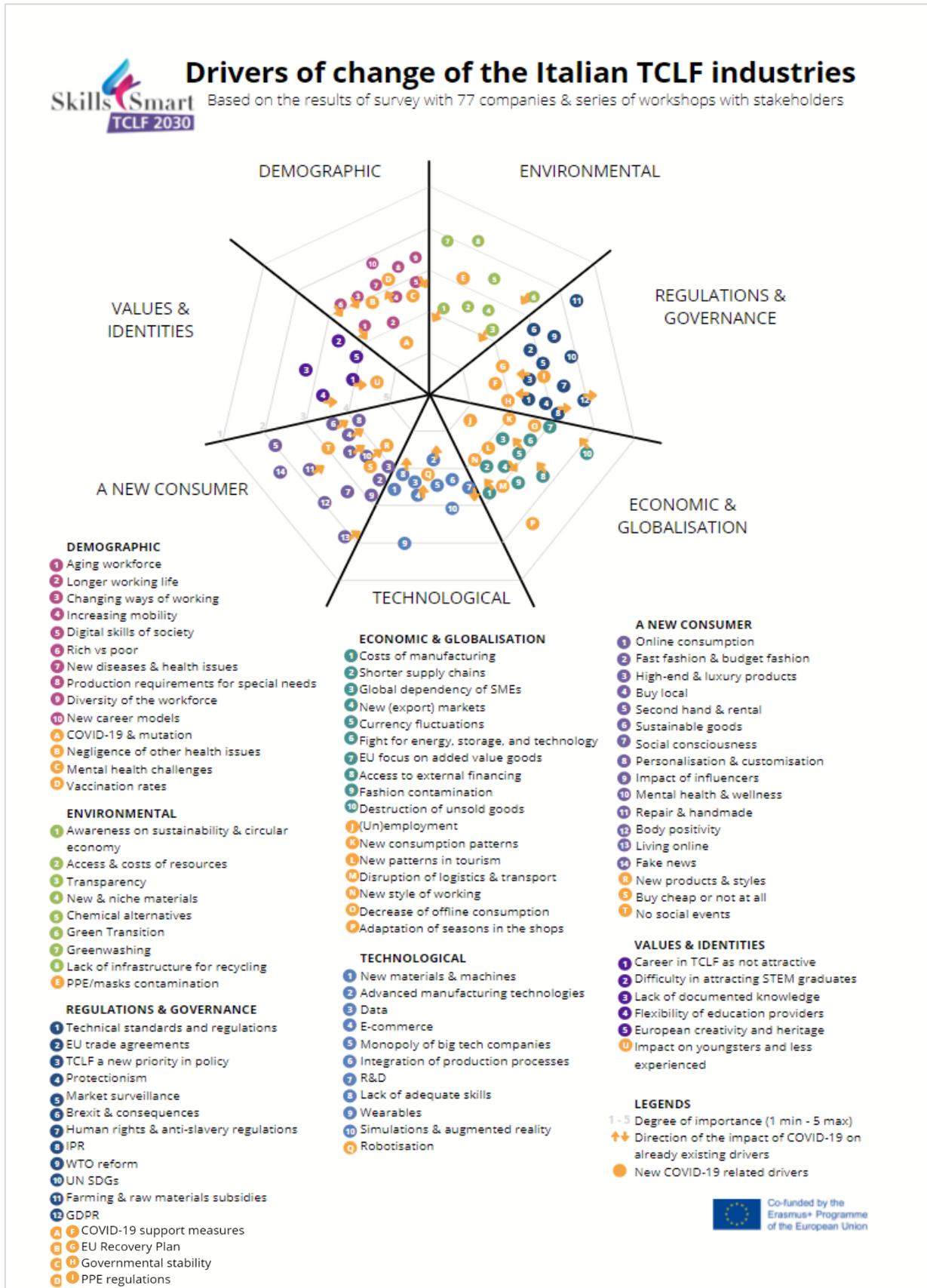


FIGURE 4.12

Source: our analysis based on survey, interviews, workshops and research

Analysing the category of demographic changes, four new sub-drivers were introduced, the most important of which concerned Covid-19 and its variants.

Italy was the first European country to face the onset of the pandemic and the first country to implement one of the strictest lockdowns in Europe, experiencing an unprecedented human crisis (public opinion even compared the Covid-19 pandemic to the periods of the two world wars), as it found itself with an unprepared healthcare system and a society with a high proportion of older people, two factors that contributed to exacerbating the crisis. As the first country in Europe to face exponential growth in Covid cases, its healthcare system was almost brought to a standstill, with overcrowded intensive care units and doctors forced to apply triage. While photos and videos of Italian solidarity and community, such as people singing from balconies, went around the world, Covid-19 also left the country in deep mourning and caused profound changes in the mentality of Italian people. During the crisis, only one in two Italians (52%) perceived solidarity in their own and others' lives, despite most claiming that Italians showed unprecedented levels of solidarity during the pandemic (80%). Moreover, most Italians are now more aware of the living conditions of others (73%) and believe that human lives are priceless (80%). Most Italians believe that Covid-19 offered an opportunity to make important changes that would reduce social inequalities and combat climate change.

Almost a year and a half after the outbreak of Covid-19, Italy is slowly returning to a new normal, with most of the restrictions on public life having been removed while the country is being forced to deal with the legacy left by the pandemic of psycho-social and economic problems.

Numerous studies have shown that loss of work productivity is one of the main determinants of poor mental health. The results of many studies have shown that levels of anxiety, depression and stress-related symptoms increased during lockdown, especially amongst females. Other studies have shown that levels of anxiety, depression and stress, measured during the lockdown period, were significantly higher than those estimated in the general population before the health emergency in Italy. Further analysis showed that young age, the presence of a family member with symptoms, financial problems and loneliness were the main determinants of anxiety and depression and higher than normal levels of perceived stress. One year after the start of the pandemic, it was estimated that about 5.1% of people reported post-traumatic stress disorder symptoms and 48.2% reported lower psychological well-being related to the spread of Covid-19. Moreover, during the lockdown period, due to the Covid-19 health emergency, cases of addiction increased and were exacerbated. Forced confinement, distance from affection, lack of contact and the absence of social contexts, such as school and work, probably reinforced this isolation aspect typical of addictions. For these reasons, we included the sub-driver mental health challenges and felt that it was important to consider.

Covid-19 also affected the sub-drivers analysed above, as the pandemic caused an unprecedented economic crisis, exacerbating structural weaknesses in the production system of TCLF industries. One of the most alarming aspects concerns the delicate issue of the generational turnover of small producers. The major problems and difficulties of this historic moment encouraged the early exit of older entrepreneurs from the market, without a generation, in terms of knowledge and technical skills, ready to take over the business. This issue is closely linked to the sub-drivers of the *values & identities* category on the unattractiveness of the TCLF sector, which could lead to the drastic

consequence that this phenomenon could erode the availability of craft workers, whose absence could prove fatal for the Italian TCLF industries when the hoped-for recovery of demand begins at the end of the pandemic. Clearly, other sub-drivers lose their importance, such as those related to increased mobility, especially due to stringent regulations on travel and quarantine periods.

How has Covid-19 impacted environmental aspects? A year ago, the idea that disposable masks, gloves and wipes could become global environmental pollutants was not a pressing concern. Personal protective equipment (PPE) was considered essential to prevent the spread of COVID-19. No one imagined how much would be needed and for how long. Then, production exploded and now Italy is faced with a huge amount of waste. It is estimated that worldwide, we use 129 billion items of PPE every month or 3 million per minute. What is the problem? Masks, gloves and wipes are made from multiple plastic fibres, mainly polypropylene, which remains in the environment for decades, if not centuries, fragmenting into ever smaller micro- and nanoplastics. A single mask can release 173,000 microfibrils into the sea every day, according to a study published in *Environmental Advances*. Therefore, face masks and PPE devices are not recyclable in most municipal disposal systems and should not end up in household recycling. The masks may contain a mix of paper and polymers, including polypropylene and polyester, which cannot be separated into pure classes of individual materials for recycling. In addition, they are so small that they get caught in recycling equipment, blocking it (PPE used in healthcare facilities is in fact disposed of as hazardous medical waste).

In addition, the pandemic also saw an increase in the production of single-use packaging as consumers bought more take-away food and the amount of disposable plastic materials, including shopping bags, increased.

These considerations have led to a greater awareness of environmental issues, which have also to some extent involved manufacturers. If there is anything that the pandemic has shown, it is not only how important our health is but also that of the planet, so much so that one cannot ignore the other: 'one health, one planet'. For example, the textile sector can play a very important role in ecological transition, as the post-pandemic period offers an opportunity for new business models oriented towards a circular economy, which would bring economic and environmental benefits: creating new jobs in collection, sorting and recycling facilities, reducing the costs of handling and disposing of textile waste, increasing the availability of recycled fabrics; and lowering the costs of materials for clothing production. The textile and clothing sectors were already making efforts in this direction before Covid-19, but much more could be done. There is a strong need for new business models that can jump-start the post-pandemic economy by making it more circular and resilient, as the green transition requires.

The Covid-19 pandemic has also had huge effects on the *regulation & governance* category. As has been said before, the TCLF sector has been amongst the most affected in Italy. Therefore, sub-drivers such as support measures and the recovery plan have a really important character for the recovery of economic activities in the Italian TCLF industries. Just think of the impact it has had on traders in the TCLF sector, especially clothing and footwear, which has a proximity index of between 75% and 80%. This implies greater complexity in the management of daily work tasks, given the numerous protocols and hygiene and sanitary measures required by the Covid-19 regulations. Both in company production rooms and in sales shops, companies have had to invest

a lot of money to bring premises up to standard to prevent exposure to the risk of contagion. For this reason, to support the Italian TCLF industries, measures such as that provided by Article 38-bis of the 'Decreto Rilancio' have come out, which is aimed at supporting the textile, fashion and accessories industry, with particular regard to start-ups that invest in design and creation, as well as with the aim of promoting young talents in the textile, fashion and accessories sector that enhance 'Made in Italy' products with a high artistic and creative content through the provision of outright grants. In addition, the 'Decreto Rilancio' grants a contribution in the form of a tax credit to businesses operating in the textile and fashion industry and in footwear and leather goods production (textile, fashion and accessories sector) to limit the negative effects of the prevention and containment measures adopted for the Covid-19 epidemic emergency on final inventories in sectors characterised by the product seasonality and obsolescence. Another important support is provided by the National Recovery and Resilience Plan (PNRR), which foresees the use of part of the recovery plan funding in projects aimed mainly at digitisation, innovation and ecological transition. Finally, the end of the ban on redundancies was extended from 30 June until 31 October 2021 for companies in the TCLF sectors.

The effects of Covid-19 are also being seen in the *economics & globalisation* category, especially from the point of view of economic losses. According to McKinsey's market analysis, relaunched by The Business of Fashion, analysts expect a significant recovery of TCLF companies to wait until 2022, and some go so far as to hypothesise that the 2020s will be like the 1920s. Certainly, the Covid-19 pandemic has accelerated several trends in the industry, including a decline in demand, a substantial shift towards digital shopping, a reduced ability to rely on the travel and tourism industry to increase fashion demand and the need to adapt to the new 'less is more' consumer mentality. As fashion system leaders work to move beyond the pandemic, the most capable will be those who understand these trends. Some sub-drivers have gained in importance, such as new working styles that have led to a decline in demand for certain products. For example, formal wear, which was already in decline, or shoes saw even bigger drops in sales and sales of clothes declined as more people worked from home and stopped going to events. All this cannot fail to have consequences for employment. Even after shops finally reopened, the restrictions introduced by safety and hygiene protocols disrupted consumers' buying behaviour and changed their shopping experiences, leading to a collapse in turnover for many businesses and a high risk of unemployment. Federmoda (one of the unions of the Italian Confederation of Craft Trades and Small- and Medium-Sized Enterprises – [CNA]) has suggested that between 10% and 15% of shops could close as a result of the crisis. Those that do not could apply for funding. In fact, from a strictly economic point of view, the drop in sales has partially compromised the fluidity of internal payments in the TCLF industries, encouraging the spread of nagging liquidity problems, which companies have tried to tackle with debt. The strong risk for the post-Covid future is that of inheriting a production system over-indebted to the banks. This sub-driver will become increasingly important for the recovery of economic activities.

Companies have suffered a restriction in orders, and those leading the supply chains have recalibrated their production decisions, above all trying to adapt to reduction in demand. This is why the Covid-19 emergency has brought to the fore the following questions: Will increasing productivity and better integration with suppliers allow us to reach the tipping point? Can the risk

of having such a long chain be worth the gamble, notwithstanding the obvious risks and instabilities? To reach a new level of flexibility imposed by the market, should I reorganise my entire chain? These are all questions that will require in-depth reflection within TCLF companies.

Another major sub-driver is *decline in offline consumption*, which is accompanied by the growth of *e-commerce* and *online consumption*. During the lockdown, online sales and the enhancement of digital platforms were amongst the main resilience factors of the Italian TCLF industries, especially clothing and footwear. The rapid development of e-commerce in recent years, particularly following the restrictions imposed by the Covid-19 pandemic, is helping to revolutionise the retail market. In this context, and with global Internet penetration set to double in the coming years, e-commerce is increasingly becoming an indispensable tool for businesses, both to increase their sales volume and to reach new markets. While Covid-19 has given an unprecedented boost to online commerce, the sudden growth in demand has also led to problems with logistics, shortages of available products and cases where goods could not be delivered due to problems with transport infrastructure. In some ways, e-commerce is acting as a selection mechanism, accelerating digitisation processes (also promoted by the National Recovery and Resilience Plan) for those that had already embarked on them but exposing more traditional businesses to change their ways of operating and to incur very high access costs to these platforms.

While 2020 was the year in which many TCLF businesses moved online, embracing live streaming, virtual customer service and social shopping, in 2021 and 2022 offline consumption could regain some of its market share, although online sales are expected to remain high. The situation becomes even more complex if we consider that Italians were amongst the consumers in Europe who shopped less online: with the pandemic, they have discovered the online world and become more demanding. Shoppers will not only demand increasingly sophisticated digital interactions but will also assume a new 'less is more' mentality, including a preference for longer-lasting, mostly local, higher-quality and sustainable goods: these factors must definitely be taken into account by TCLF companies.

Another important element affects support for the companies hardest hit by the crisis caused by Covid-19, providing incentives to make significant investments in R&D, innovation and competitiveness, especially in robotics and new machinery following the precepts of Industry 4.0. The research firm Robo Global predicts that the global industrial robotics market will grow from \$45 billion in 2020 to \$73 billion in 2025, not to mention that by the end of 2021, the worldwide installed base of industrial robots was predicted to exceed 3.2 million units, twice as many as in 2015. Italy is in a good position because it is confirmed as the second largest manufacturer in Europe in terms of users, behind Germany, with 74 400 units, and will tend to grow thanks to the decree's incentives.

Covid-19 has certainly changed our lives. The impossibility of going out as much as one wants, the restriction in terms of physical contact with people, the less and less frequented offices and even schools with empty classrooms have had an impact on the lives of young people, students and workers.

Suddenly, from the first lockdown until today, it was necessary to change the approach to work. In fact, many companies have favoured smart working. Flexibility, the possibility of being able to manage work and private life in a suitable way, the recovery of the hours 'lost' between traffic, bus and metro, has also given new lifeblood, increased productivity and the desire to plan and work at our best in the shortest possible time: all these have affected our values.

Some TCLF companies have been so satisfied with the use of smart working that for non-technical tasks, they are thinking of integrating this form of work into the traditional one, even in a future without Covid-19. Increasingly, they are giving their employees the possibility to choose between working in the office or at home without too restrictive constraints in terms of hours but with working by objectives. This will help them to be more effective and freer from the oppressive patterns of home-office life.

4.5. Conclusions for drivers of change

After Covid-19, TCLF companies will be forced to operate in a fluid and dynamic reality, so it will be crucial to understand and prioritise and to take into account the skills needed and the drivers of change that characterise the TCLF sector.

In light of the above, companies will have to encourage responsible use of products, promoting their reuse and recycling, adopting circular economy business models oriented to the reduction of waste and the reuse of, for example, fabrics for new products.

Another important aspect concerns the focus on the use of eco-friendly materials, for which investment in R&D should be used wisely. In general, flexible, demand-driven business models should be developed, allowing more accurate estimation of market demands, thus minimising stocks and returns.

It is clear that companies will need to emphasise the importance of the human capital involved in the digitisation process and new consumption patterns, which will involve both employees and supply chain partners. Worker support programmes should be driven towards a more sustainable workforce, one that values digital and product and process innovation.

All drivers of change resulting from Covid-19 are highly interconnected and have a strong impact on the TCLF sector. Although each sub-driver may have a single impact, their influence may combine with other sub-drivers from other categories and increase the final impact on work and skills needs. As for the drivers of change analysed in the previous section, the most important were those related to environmental change and the new consumer, together with technological change, although one should not underestimate those related to regulation and demographic change that, especially in the future, will have a greater impact. The most important element of the whole analysis is that companies in the TCLF industries have to analyse and consider these changes that will influence trends in production and consumption patterns.

5. Sectoral skills scenarios for the Italian TCLF industries in 2030

5.1. Building blocks for skills strategy development

Analysis of the skills and employment trends of the TCLF industries has been a subject of numerous European and national projects in the last decade. The main objectives of those activities were to increase the understanding and effectiveness of implemented activities in response to the challenges and opportunities within the four sectors. Consequently, the main focus of the mentioned activities was on how to close the gap between manufacturers' demand and the qualifications and skills of the EU labour force, retain the skills of the industry, as well as increase innovativeness and sustainability. Apart from that, an important element was the analysis of future needs.

On the level of the European TCLF industries, it is worth mentioning a few initiatives that took place in previous years that the Sectoral Skills Strategy under the S4TCLF project takes inspiration from. In 2008, the *Skills scenarios for the textiles, wearing apparel and leather products sector in the European Union* report was published under the guidance of the EC's Directorate General for Employment, Social Affairs and Inclusion, which analysed drivers of change and potential future scenarios.

The document was followed by an industry-driven initiative that established the *European Textile, Clothing, Leather and Footwear Skills Council* (TCLF Skills Council). The main purpose was to improve the level of education, skills and employment in the TCLF industries. The core objective was pursued through networking of the industry skills partnerships and the EU social partners of the TCLF sector, as well as through facilitating decision-making on education and training issues in the sectors at the European, national, regional and company levels. One of the important outcomes of this cooperation was the Skills Council Report from 2014, the main reference point in terms of analysing the drivers of change.

In 2012, *An in-depth assessment of the situation of the T&C sector in the EU and prospects* was published on request by the EC, with input provided by EURATEX – the European Apparel and Textile Confederation. As the title indicates, the analysis was dedicated solely to the textile and clothing industries, and it discussed the main challenges in the sectors and potential tools to overcome threats to manufacturers.

The S4TCLF project follows those steps by establishing, based on industry-level research and in collaboration with education and training providers, eight job profiles that will be in high demand by 2030 and by developing the Sectoral Skills Strategy. The strategy, with the analysis of the drivers of change, establishes five scenarios for the four sectors (presented in detail in this chapter) and develops key recommendations for industry, education and policy stakeholders.

5.2. Five scenarios for the TCLF industries in 2030

5.2.1. Introduction

To establish the Sectoral Skills Strategy for the TCLF industries, the S4TCLF project partners took numerous significant decisions during the preparation process. The first decision was not to create one skills master plan for the entire EU TCLF industries, but rather a framework that facilitates the development of sectoral, national or regional strategies.

This approach was driven by the differences between the four sectors and between countries, in the context of the uniqueness of the production processes, know-how, level of development and the presence of each sector in each country, as well as macro-environmental conditions, which could make one overall strategy ineffective. Moreover, together with the development of five distinctive scenarios for 2030, this approach allows adaptations to force majeure rather than starting work from the beginning.

The corresponding national strategies were developed by the project partners based on their unique knowledge about the industries and challenges as well as access to important stakeholders in order to translate the strategy into a set of concrete actions.

A strategy is understood as a set of actions developed based on the needs analysis that aims to achieve a long-term objective. In the S4TCLF project, the main focus is to prepare the TCLF industries for the skills-related challenges that the sectors will face up to 2030. The final version of the Sectoral Skills Strategy also takes into consideration the impact of the Covid-19 pandemic on the industry and skills needs of the future.

As a first step, the project partners analysed data related to economic and social aspects of the TCLF industries, paying attention to trends and challenges within the four sectors and presenting the obtained results described in earlier chapters of this document. Based on the collected research, the key challenges include the upcoming retirement of a significant share of experienced workers, the lack of young people seeking a career in the TCLF industries and the gap between the skills offer and demand.

The next step in the strategy development included the development of scenarios – snapshots of plausible, alternative futures that are expanded in a process that involves analysis of trends and critical uncertainties.

For the S4TCLF project, the partners involved in this activity decided to develop five distinctive scenarios. The reason is the lack of homogeneousness between the four sectors and the probability of obtaining different, even contrasting, outcomes for each of the industries under exposure to the same conditions. Although all the proposed scenarios are different, each has certain things in common, making the transition between one option and another smoother. The selected approach allows project partners involved in the development of national strategies as well as external stakeholders to create bespoke recommendations and adapt the tools according to their needs, increasing the chances of success.

Based on the developed scenarios, the partners established a set of recommendations and strategies for different types of stakeholders (policymakers, industry and education), adequate for each of the plausible futures. These results are presented in the next chapter.

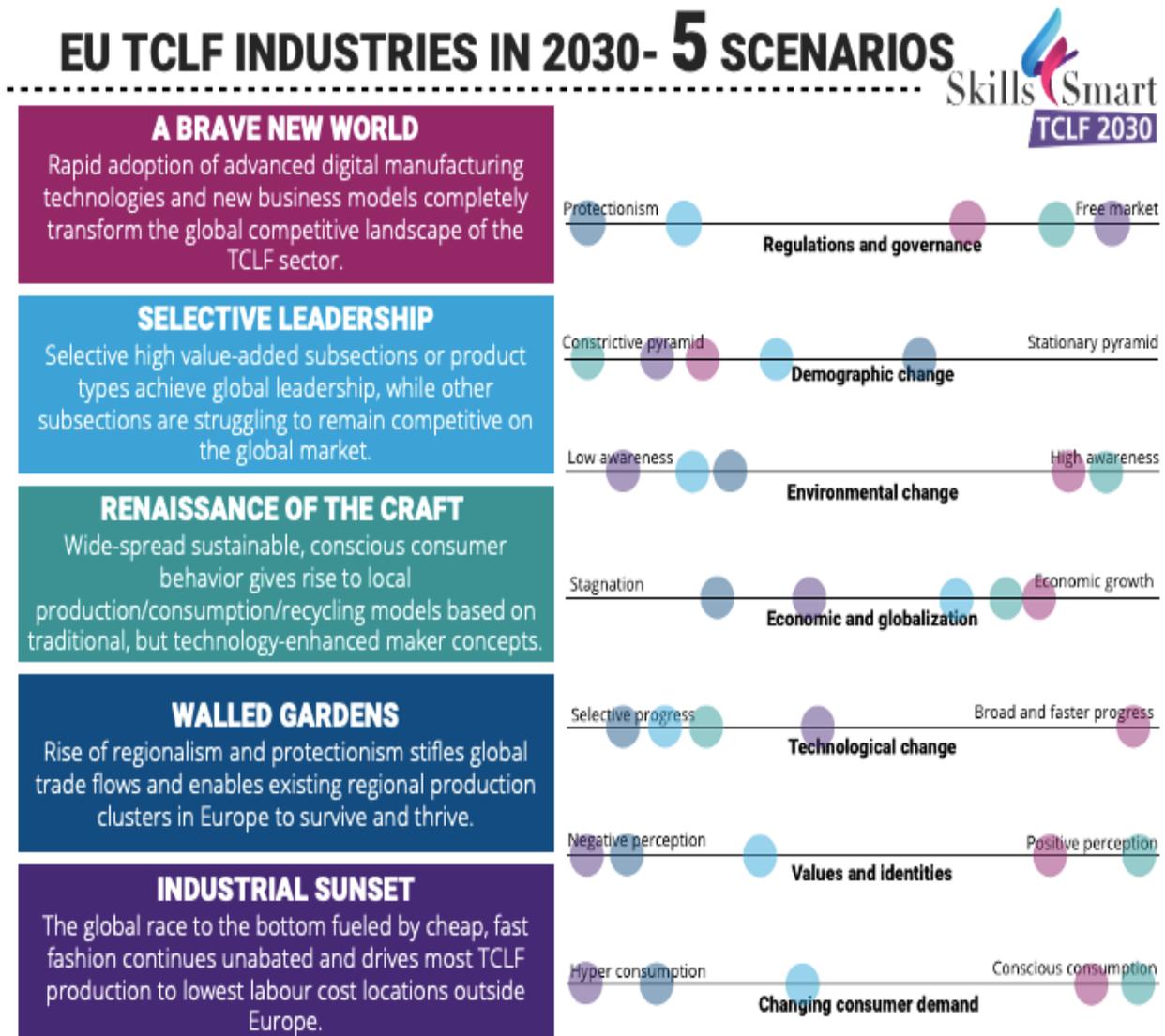


FIGURE 5.1.

Source: Skills4Smart TCLF Industries 2030

5.2.2. A Brave New World in Italy

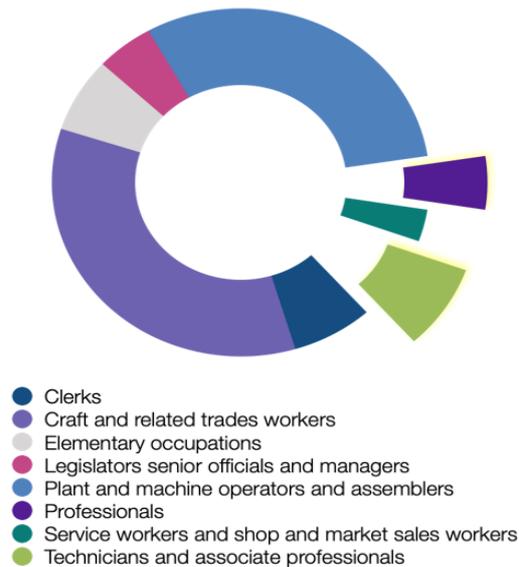
5.2.2.1. Summary



A BRAVE NEW WORLD

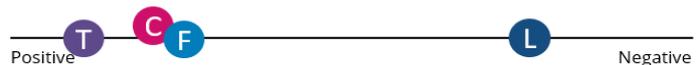
- EU PERSPECTIVE

Job situation for A Brave New World scenario based on ISCO clarification



Rapid adoption of advanced digital manufacturing technologies and new business models completely transform the global competitive landscape of the TCLF sector.

Character of impact for the TCLF industries



Production focus

Higher added value and more advanced technologically products or in progress regarding the automatization of production or R&D in other subsectors.

Main drivers of change

Environmental & technological changes.

Jobs of the future

Increase in high-level qualifications and creation of stronger ties with other sectors. New jobs and new opportunities.

Skills of the future

Changes in the production processes will create high need for new skills and specialisation (in particular – digital). Transdisciplinary approach towards skills. Demand for physical tasks will decrease.



FIGURE 5.2.

Source: Skills4Smart TCLF Industries 2030

The first scenario is called *Brave New World*, the title of Aldous Huxley's novel, which anticipated themes such as the development of technologies and the creation of new models of society. This scenario assumes a 'new world' characterised by a rapid adoption of advanced digital production technologies and new business models by Italian TCLF companies. This new world will also be 'brave', because Italian TCLF companies will have to compete excellently in this new world, which will completely transform the global competitive landscape of the Italian TCLF sector in 2030.

In this scenario, changes in production will focus mainly on ensuring higher added value, particularly in technologically advanced products and components (implementing technical or smart textiles) or on the progress achieved in the automation of production and the development of new systems. In addition, *Brave New World* foresees progress in R&D in terms of both technological development and sustainability. A *Brave New World* is a positive scenario for the Italian textile, clothing and footwear industries, but it presents threats to leather and tanning producers.

This scenario is highly influenced by environmental and technological drivers of change, which will have a positive impact on most Italian TCLF industries. In particular, from the list of environmental drivers of change, the most important ones in the Italian *Brave New World* are those related to the *green transition* and to the growing *awareness of sustainability and the circular economy*, which in Italy has been growing exponentially in recent months and is generating a great impact on TCLF industries, especially on Italian manufacturing, which is looking for *new and niche materials* to satisfy the increased consumer demand for environmental sustainability. This research is accompanied by technological innovation, which, in this scenario, acquires a priority role in the TCLF industries, especially in the textile-clothing sectors, involving all the operators of the supply chain. In Italy, in this scenario, technological changes will lead Italian TCLF companies to adopt a new business model with low environmental impact, different from the classic linear model, with the introduction of *new materials & machines* and *advanced manufacturing technologies* that will be able to minimise processing waste and reduce energy waste, supporting *R&D* in the constant search for new technological solutions to develop innovative and increasingly sustainable materials for the environment. All these technological drivers of change will determine the tone and influence of Italian TCLF production. However, the increased incorporation of TCLF products into augmented reality and the metaverse, while it may increase industry skills and decrease return share, may also lead to decreased production volume due to the increased consumption of online products.

In the Italian *Brave New World*, the *digital skills of society* will have a great impact, alongside two other drivers of change: *e-commerce* and *simulations & augmented reality*. These forces will influence the four TCLF sectors not only on the side of consumers who will know new ways of buying, but also on the side of companies, because new professional skills will be needed to respond to these new customer needs. This will affect not only the perception of industries from a consumer point of view, but will create new opportunities and *new career models*. These changes will improve the perceptions of Italian TCLF companies, which are often seen by young people as old companies, where there are low-skilled jobs and where non-young people work. In addition, the change in the manufacturing process will influence the upgrading of current skills and competences and create stronger links with other sectors, such as the healthcare, automotive, construction and defence sectors. As a result, this could bring a cross-sectoral exchange of workforce and skills to the industry.

However, there are two threats to this scenario. The first is the automation of production, which will force the low- and medium-skilled workforce to requalify or change jobs. The second threat is the strong digitalisation present in the *Brave New World* scenario, which could lead to an inexorable disappearance of the manual skills and craftsmanship that strongly characterise the Italian TCLF industries, causing the disappearance of a centuries-old heritage forged by the skills and knowledge of the excellence of 'Made in Italy'.

5.2.2.2. Jobs and skills in the *Brave New World* in Italy

The *Brave New World* scenario will mark a decisive turning point to Italian TCLF companies, drawing an alternative future, thanks to technology and sustainability. The world of manufacturing and consumption will be upset, even if gradually, especially the textile industry and in part also the clothing and footwear industries. The scenario in Italy will have a positive impact on the textile industry workforce; it may have a negative impact on the workforces of the leather and tanning industries, while it will have a neutral effect on the workforces of the clothing and footwear industries.

In Italy, positive developments will be evident, especially for medium- and large-sized companies, which will be able to incorporate new machinery and R&D results. In particular, it will have a strong positive impact on Italian textile and apparel companies because, as written in the first chapter, they make the largest investments in machinery and equipment (their investments constitute about 72% of the total investments of all TCLF companies). This scenario could also create opportunities for smaller companies, both existing and start-up, if they manage to invest in new digital tools, such as CAD or software that can improve the production timeline.

The great unknown of this scenario in the Italian context is represented by a consideration of the size of the companies. In Italy, SMEs represent 98.1% of all Italian TCLF companies. The risk is that this very high number of companies does not have the resources to keep up with the investments made by large Italian TCLF companies. A national economic-productive gap could be created between companies that have technical-financial resources and companies that have only had the possibility of making small investments in new machines or advanced manufacturing technologies. Moreover, they could become less competitive if this scenario were valid at the European level and many European TCLF companies were able to make significant technological and sustainable investments.

In the Italian *Brave New World*, environmental and technological changes will make TCLF companies move towards the new sustainable trend and look for new product solutions and materials. Moreover, they will also influence the workforce, both in the type of occupation and the level of qualifications. From the point of view of occupations, the highly qualified workforce, which in Italy is very low (it is only 8% in contrast to the European average, which is 14%), will grow, so the risk is that Italian companies may start at a disadvantage in the European competitive grid. According to the International Standard Classification of Occupations (ISCO), the changes will produce a positive effect above all for *professionals* and *technicians and associate professionals*: these categories make up a low percentage (17%) compared to that of total Italian manufacturing (28%). In this scenario, the changes will lead to an increase in the numbers of these professions. Moreover, if many companies adopt advanced digital manufacturing technologies, new professions will emerge, such as Clothing CAD Pattern Maker, 3D CAD Footwear Developer, Digital Marketing Professional and Process and Production Timeline Analyst.

In addition, in the *Brave New World*, the focus will be on satisfying the new needs of TCLF industries rather than replacing the retiring workforce. The Italian TCLF industries employ a high number of older workers (50–64 years old), especially in the textile sector, where they represent 37.3% of the total workforce (in clothing this percentage is 30.8%, and in leather-footwear it is 32.5%).

Apparently, there could be more problems for the retraining of personnel. However, textiles is also the sector with the highest average of workers with medium skills, so it might not be so difficult to upgrade skills more oriented towards digital knowledge and new sustainable business models, unlike the leather sector, where the skills levels are much lower.

Therefore, in Italy, this scenario will provide a new challenge. Due to the automation of production and the need to have highly qualified figures for the management of new technological tools, the numbers in the low-skilled workforce will be less and less needed by the Italian TCLF industries. Given that more than half (51%) of the Italian TCLF workforce has a low level of qualifications (in footwear-leather it is 57%), what will these people do? Above all, this question relates to the employees who work physically in the early phases of the production processes or in logistics, i.e. *clerks, plant and machine operators, and craft and related trades workers*.

This situation can boost new skills and needs, creating new opportunities for professional growth. As noted, the positive trend will be concentrated above all on the highest qualifications, but in some cases, it can also include the lowest levels of skills. Italy is characterised by a manufacturing reality dominated by SMEs that will not be able to make significant investments in production automation mechanisms, so they will still need manual and traditional skills, also because this scenario foresees gradual changes in Italian TCLF industries, not drastic changes and because the TCLF supply chains have characteristics that must be respected and critical points that must be addressed with ad hoc measures and policies. On the one hand, it means enhancing the connection between the world of education and companies because trainers must have extensive and updated preparation to be able to transfer knowledge. On the other hand, it means a commitment on the part of employers to train their employees. Companies or workers who do not update will find it difficult to be competitive in this scenario, in which production will become more specialised. Moreover, in this scenario, Italian TCLF companies will increasingly require workers with strong digital skills who can process information, solve problems, manage technologically advanced machines and use e-commerce platforms and virtual reality tools. These new jobs will attract young people, who will be attracted by the idea of designing new products with innovative tools and carrying out 'more modern' professions, and STEM graduates, who will have the skills to use new tools to manage manufacturing machinery and carry out activities that must conform to the circular economy and the green transition. Finally, in this scenario, TCLF industries will also welcome a workforce from different non-TCLF backgrounds, raising the level of qualifications within the Italian TCLF industries, especially in the textile and clothing sector, creating a climate of embedding of transversal and digital skills that will allow these to reach a wider range of the workforce.

In conclusion, the *Brave New World* in Italy will have a positive impact on TCLF industries, especially for those that will enhance the combination of tradition and innovation, which will be a big gamble to face but could be a great opportunity to achieve a 'Made in Italy 4.0'.

5.2.2.3. Covid-19 impact on the *Brave New World* in Italy

In Italy, Covid-19 has had a strong impact on the *Brave New World* scenario, particularly on the digital skills and competencies of the workforce, forcing them to work online in some cases. Italy, prior to Covid-19, was one of the least digitised countries in Europe, so the pandemic was an accelerating force in a digitisation process that shook the entire nation, not just the TCLF industries. The pandemic has not only affected the type of skills required but also the manufacturing processes due to the institution of frequent lockdowns or health restrictions that disrupted work shifts and production.

Therefore, from the list of the drivers of change, the most important factors are *new style of working*, *Covid-19 support measures* and *new products & styles*. In fact, the pandemic has increased the use of *e-commerce*, changed styles and created new products. Consumers have discovered that they can customise their products and shoes online (*personalisation & customisation*), while companies have thus discovered new consumer trends that they previously ignored. For example, companies will increasingly create 3D sample books, clothing and footwear companies will do 3D scanning and printing, apply more augmented reality to make digital collections and customised products and create customisable fabrics and materials, digital twins, immersive showrooms and deep tech fashion events. More production changes will be required and more skilled people will be needed who will be able to use the new digital tools (the direction is leading towards solutions that will use the metaverse with avatars) and use the new channels for business.

Although many Italian SMEs will not have the resources to make large investments in machinery, they will be able to invest in software and hire people who can digitalise business processes and exploit the opportunities of new technologies and digital tools. Not only that, but the pandemic has also enhanced remote control systems and human-computer interaction technologies.

Finally, to support companies, the Italian government has drawn up the National Recovery and Resilience Plan (PNRR), which provides for the use of part of the recovery plan funding in projects aimed primarily at digitalisation, innovation and sustainability. This measure will support Italian TCLF companies in the processes of digitalisation and green transition.

5.2.3. *Selective Leadership* in Italy

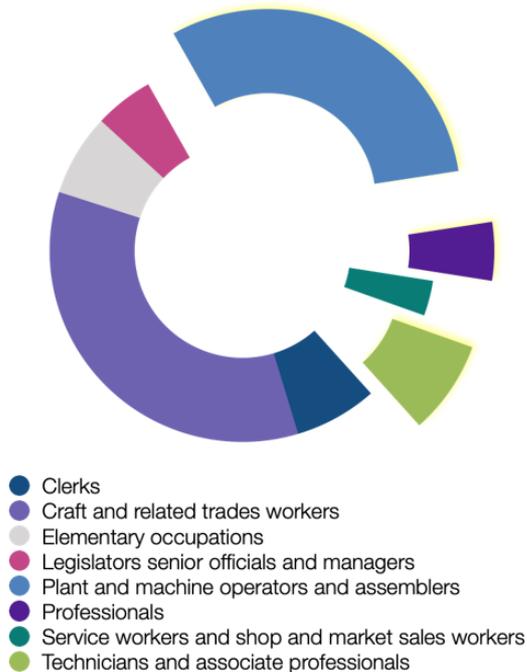
5.2.3.1. Summary



SELECTED LEADERSHIP

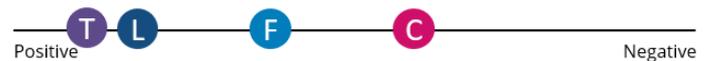
- EU PERSPECTIVE

Job situation in *Selective Leadership* scenario based on ISCO clarification



Selective high value-added subsections or product types achieve global leadership, while other subsections are struggling to remain competitive on the global market.

Character of impact for the TCLF industries



Production focus

The industry will specialise in high added value goods - either highly advanced technologically or with creative or brand-driven value.

Main drivers of change

Regulation and policy & Technological changes.

Jobs of the future

Stable level of job needs due to the balance between growing sub-sectors and those fading away. Technological leadership may increase interdisciplinary mobility while focus on high added value – increase the seclusion.

Skills of the future

Decrease variety of produced goods may lead in longer term to extinction of certain skills. The key focus will be on conventional and digital skills.



FIGURE 5.3.

Source: Skills4Smart TCLF Industries 2030

The *Selective Leadership* scenario foresees a more polarised picture in Italy, in which the sub-sectors of the very high value-added TCLF industries, such as high-end fashion or high-tech materials or products, perform well in the international market, while existing industrial activities in medium and low value-added products and highly price-sensitive mass markets are rapidly being abandoned.

The *Selective Leadership* scenario will lead Italian TCLF companies to concentrate production and R&D mainly on the most profitable sectors and on the production of high value-added goods that can enhance Italian manufacturing excellence, possibly with the adoption of advanced technologies and solutions. *Selective leadership* can present a positive scenario for the textile and leather industries, a medium-positive one for footwear and a medium-neutral one for clothing.

In Italy, the most important drivers of change in this scenario are *technological change* and *regulation & governance*. From the technological perspective, the *integration of production processes* driver is very important, which, integrated with sub-drivers such as *R&D* and *new*

materials and machines, allows for an increase in the specialisation of Italian TCLF manufacturers. This scenario is enhanced by the concentration of companies in Italian industrial clusters, which represent a national productive specialisation: each cluster specialises in particular branches. In Piedmont, the Biella industrial cluster specialises in the manufacture of fabrics and yarns in cashmere, camel hair, alpaca, vicuna and mohair; in Tuscany, the industrial cluster of Prato specialises in the production of yarns and woollen fabrics destined for the clothing, knitwear and furnishing industries, but also in the production of garments; in the footwear sector, the industrial cluster of Fermo (Marche) mainly specialises in the production of medium-high quality shoes with a high volume of exports. Therefore, the clusters allow the cross-fertilisation and interconnection of highly specialised skills in geographical locations where Italian SMEs are historically agglomerated. Not only that, but this scenario will encourage the rise of specialisation in one or more sub-sectors, especially in the areas of design and creativity, which constitute the DNA of Italian manufacturing excellence. This will facilitate the creation of a common network for sharing skills and increasing the qualitative level of technical-productive knowledge, leading to the development of high value-added products that will make Italian TCLF companies highly competitive at the global level.

Regulation & governance will also play an important role through the implementation of *technical standards and regulations*, which in Italy are very strict but necessary to preserve the high quality level. Some regulations also represent an important tool for fighting unfair competition and counterfeiting, in particular for leather and some textile sub-sectors. Moreover, *EU trade agreements*, together with government support through the inclusion of TCLF-related issues in political priorities, will succeed in this scenario, on the one hand, eliminating legislative discrepancies (e.g. circular economy regulations will have to regulate that a textile material can be considered by some as waste and by others as a 'second raw material'). On the other hand, they will help Italian SMEs, which, due to their characteristics and size, need a customised legislative framework, together with a series of support measures, that can lead them to achieve profitable goals to contribute fully to the competitiveness of the economic and productive system of the Italian TCLF industries.

TCLF workforce skills may focus on both digital or technology-based soft skills and the process and production skills characteristic of TCLF manufacturing. Workforce entry requirements will depend on the type of products and the company's position in the supply chain. Overall, job requirements will be stable, as job growth in the leading sub-sectors will be balanced by job losses in the struggling sub-sectors. However, the threat of prioritising only selected branches may lead to the disappearance of knowledge and skills, as well as increased unemployment, especially amongst low-skilled workers.

In Italy, this scenario will favour the completion and consolidation of the supply chain with network systems or grouping of companies in order to facilitate the control of processes, time management and greater coordination of production phases, especially those with higher added value. The scenario could lead to a situation in which there will be companies driving the system of specialised SMEs that will be selected on the basis of their product, process and service performance. For example, the phenomenon of reshoring that has occurred in the Italian leather goods sector has shown how big brands seek to acquire production companies to have greater control over them,

not to disperse know-how, and to keep up a continuous exchange of information between the production system and company intelligence. This will lead to an improvement in planning, management and control of production.

5.2.3.2. Jobs and skills in the *Selective Leadership* in Italy

In this scenario, there will be major shifts in the workforce, which will be determined by production, business choices about which activities to focus on, and the technologies adopted to achieve leadership in specific sub-sectors. In Italy, in *Selective Leadership*, the character of the impact on the TCLF workforce is perceived as positive or neutral for all four sectors, with textile employees as the main beneficiaries. At the quantitative level, the number of workers will remain the same, because there will be a balance between the growing and dying sub-sectors; while at the qualitative level, there will be a large shift of workers from one company to another, although they will often remain in the same district. Thus, many workers will be ultra-specialised in high value-added activities, and other workers will inevitably have to requalify because the demands of companies and the technologies adopted will change. In addition, interdisciplinary mobility will increase, creating a polarisation of professional qualifications. Although it would seem that with the increase in the technologies used and the reduction of some less profitable activities, the workforce could decrease, especially the less qualified, in reality the workforce will not decrease, both for large companies and in SMEs. In the great Italian companies, activities will be focused on technological specialisation, and the products will be able to be realised through automated advanced systems (for example, in the textile and leather goods sectors, these systems could offer the possibility to trace the production to 360° and analyse all the production times) and demanding the presence of new professional figures that know how to manage these processes and machines. Even in SMEs, which are the backbone of Italian TCLFs and which will be focused on craft and high value-added and premium goods, the manual intervention and experience of workers will be essential to ensure high quality. Consequently, they will be irreplaceable. Manual activities will always be necessary to guarantee products of excellence and convey the tradition and originality of 'Made in Italy'.

This scenario will positively involve professions with high-level qualifications that are able to guarantee products and services with high added value, such as *technicians and associate professionals* and *professionals* (according to the ISCO classification), especially in the textile sector, which has a higher percentage of these professions than the other three TCLF sectors. *Selective Leadership* will also involve *craft and related trade workers* (especially in the leather sector), *plant and machine operators and assemblers* (again, the textile sector will be the most involved, considering that more than a third of textile workers belong to this category). In Italian SMEs, especially those in the textile and leather sectors, the impact of this scenario will be very positive. In fact, to ensure that the final result is high, many technicians will no longer know only one phase of the production process but will specialise in several steps (also considering the size limit of their companies), increasing their knowledge and becoming strategic production figures. In some Italian areas, in particular in the industrial clusters, this consideration could have an effect multiplier. In fact, the dissemination of competences will carry knowledge to elevated levels and bring leadership in many sub-sectors to many Italian enterprises. For Italy in this scenario, the

brightest career potentials are Clothing CAD Pattern Maker, Textile Technologist, Leather Technologist and Footwear 3D CAD Designer & Pattern Maker.

Moreover, although occupations requiring manual skills will not disappear, this scenario in Italy will also have a significant impact on *professionals* because the automation of production and the creation of technologically advanced products, as in the *Brave New World*, will also bring new job opportunities and demands for new skills that may attract young talents with a STEM background and professionals from other sectors. This could lead to the outflow of the older generation. In fact, in a scenario where specialisation is more high-tech-oriented, workers need to update not only their technical skills but also acquire various soft and digital skills. In this context, older workers may prefer retirement to reskilling, causing some manual skills and sectoral knowledge to disappear. This consideration could be strategically important for the Italian textile sector, given that 37.2% of workers are between 50 and 64 years old, while it could be less valid for the clothing, footwear and leather sectors.

In Italy, in this scenario, companies will focus on the most profitable high value-added activities to produce luxury and premium goods, so they will want to acquire workers with a high level of experience and strong technical knowledge. Digital and green skills will be less important than technical and conventional ones, such as the ability to communicate, openness to learning and change, problem solving, the desire to be a leader and the wish to improve their businesses and products. There will also be new managerial figures who will know how to take care of the corporate image and manage communication, after-sales and customer relations: all these activities are undertaken in order to appear the best in certain sub-sectors globally.

In the long term, companies should not only grab people with the best technical knowledge, but they should also structure upskilling programmes for their workers. In particular, companies should not neglect digital and transversal skills too much, because in the long run, this scenario could lead Italian TCLF industries to a technological lag, not only compared to global TCLF industries but also compared to other more digitised Italian manufacturing industries. This argument applies not only to a possible loss of competitive advantage by companies, but also in terms of the perceptions of workers, who may feel less satisfied without upgrades than workers in other industries. This could lead to a lack of satisfaction and an increase in the percentage of people in 'dead-end' jobs, which would affect motivation and therefore productivity. For this reason, it is very important to create programmes for the continuous training and updating of workers in two directions: on the one hand, updating older workers to facilitate the exchange of knowledge and skills in mixed teams of workers with different abilities; on the other hand, training younger workers in order not to disperse highly specialised traditional skills and technical abilities that characterise 'Made in Italy'.

5.2.3.3. Covid-19 Impact on the *Selective Leadership* in Italy

The Covid-19 pandemic has had a strong impact on the *Selective Leadership* scenario, especially for companies that have substantially relocated the production of certain goods and unsustainable activities.

In fact, first of all, there has been an increase in customer *awareness of sustainability*, so companies can no longer ignore these aspects in their production. In addition, there are some *regulations* and legal plans in place to regulate and encourage the adoption of sustainable models. For example, the Italian PNRR in force favours the ecological revolution and the *green transition*, and in Italy the 'End of Waste' decree for the textile sector and Legislative Decree 116/2020 identify 'Extended Producer Responsibility' models as a key element to encourage the development of the circular economy, promoting their adoption in new supply chains such as the textile one. In this scenario, companies, especially SMEs and craft companies, will not only have to focus on the most profitable and high value-added activities, but they will also have to be sustainable, rethinking the entire life cycle of the product in order to achieve the EU Green Deal objectives. For some companies, it will be a real turning point, where they will be required to dramatically accelerate their in-house capabilities to adapt to the exogenous demands of the surrounding ecosystem. This last point can also be extended to the big changes that have taken place at the level of digitalisation of various production processes and the increase in digital skills, similar to what happens in the *Brave New World* scenario.

Key factors on the list of drivers of change affecting TCLF industries are not only the *EU Recovery Plan* (via PNRR), *new consumption patterns* and *green transition* but also *PPE regulations*. In fact, COVID's greatest impact on the TCLF industries occurred when they contributed to the fight against the virus by providing face masks for daily use or professional PPE. In March 2020, at the beginning of the pandemic, Decree Law No. 18 ('Decreto Cura Italia') came into force, amongst the measures to enhance the national healthcare system. This provided a series of incentives for the production and supply of surgical masks and PPE: the decree allocated 50 million euros to support companies that converted their activities to produce medical masks and gowns in Italy. This initiative not only helped to increase production and improve the image of TCLF industries in Italy but also gave the employees of these companies the opportunity to acquire new skills and make them more inclined to upgrade their skills. However, these companies that converted to the PPE segment could tarnish their corporate image in their customers' eyes and no longer be perceived as producers of high value-added goods. Not only that, but they may lose sight of development and digitalisation programmes.

5.2.4. Renaissance of the Craft in Italy

5.2.4.1. Summary



RENAISSANCE OF THE CRAFT

- EU PERSPECTIVE

Job situation in Renaissance of the Craft scenario based on ISCO clarification



- Clerks
- Craft and related trades workers
- Elementary occupations
- Legislators senior officials and managers
- Plant and machine operators and assemblers
- Professionals
- Service workers and shop and market sales workers
- Technicians and associate professionals

Wide-spread sustainable, conscious consumer behaviour gives rise to local production/consumption/recycling models based on traditional, but technology-enhanced concepts.

Character of impact for the TCLF industries



Production focus

The TCLF sectors by combining heritage with technological developments will offer new range of goods from different price levels that are produced locally.

Main drivers of change

Economy, environment & changing consumer demand.

Jobs of the future

The job demand will be on high level, especially for occupations with manual skills and replacement of retiring workforce. Cross-industrial workforce exchange will be limited.

Skills of the future

Crucial advantage in this scenario is the use of skills and knowledge that we already have and that are part of European TCLF heritage. Green and conventional skills will play crucial role in the industry.



FIGURE 5.4.

Source: Skills4Smart TCLF Industries 2030

The *Renaissance of the Craft* represents a scenario that enhances the strengths of 'Made in Italy': the creativity, craftsmanship, design and excellence of the Italian TCLF sectors. This scenario considers the changes in consumption behaviour, which has become more conscious and sustainable, giving rise to local models of production and recycling based on traditional concepts but enhanced by technology. In other words, it harmoniously combines Italian heritage with technological development and new consumption behaviour. In this scenario, Italian TCLF companies are becoming 'modernised', especially textile and leather companies, and are moving away from a traditional and negative image, especially for young people, becoming more attractive and able to offer high added value products. The *Renaissance of the Craft* presents a positive scenario for the leather, clothing and textile industries. Compared to the European context, the impact on the footwear industry is positive, given that high-end footwear has a very significant artistic craftsmanship component.

The most important drivers of change in this scenario are environmental, economic and those related to the new consumer.

From an environmental point of view, the key drivers of change are *awareness of sustainability & circular economy, transparency and new & niche materials*, aspects that are linked to changes in the new consumer, in particular to *sustainable goods*. In fact, in Italy, for almost one consumer out of two, it is important to buy clothes, footwear and accessories produced with environmentally friendly methods, and 37% of Italians are going to make reasoned purchases, preferring garments that will last more than one season. Eight out of ten Italians would like to know the origin of the raw materials used in the production of the clothes, footwear and accessories they buy, and 72% would like to know about the environmental impact of the fashion and luxury products they purchase, in terms of CO₂ emissions, water impact and other factors related to respect for the environment. To satisfy these new trends, TCLF companies will have to implement new materials and production techniques without neglecting the quality level of the products. Another very important element is related to transparency within production and supply chains, as consumers are becoming increasingly aware of the unsustainable nature of current practices in the TCLF industries. This requires greater transparency in the supply chain, involving another economic driver of change that will have a strong impact on this scenario: *shorter supply chains*.

In Italy, in the *Renaissance of the Craft*, changes in consumer mentality will lead to an increase in the demand for sustainable and therefore local products, favouring the growth of local markets, especially for the leather and clothing sectors, and less so for the textile sector. Not only that, but the high craftsmanship component of Italian production will lead to satisfying even the most demanding customers, who want unique and luxury products to express their social status and distinguish themselves socially. Therefore, this scenario foresees that Italian companies will have to satisfy both customers belonging to a high social bracket and with great economic resources and customers who are very attentive to sustainability and inclined to make local purchases. In both cases, Italian TCLF companies will be able to apply very high prices to their products, because the products will be considered luxury but also green.

The *Renaissance of the Craft* is very positive for Italian SMEs that produce for the local or national market, for micro-companies highly specialised in a service such as repairs and for large manufacturers that produce with the 'Made In Italy' label. However, the latter companies will have to face the challenge of better protecting the 'Made In Italy' brand. Italy has the sad record of having first place in the world ranking of the countries most exposed to counterfeiting in the fashion sector, with estimates that quantify damages of about 5.2 billion euros per year. In the next few years, many initiatives will be launched to protect 'Made in Italy' (the 'Italian' label is affixed to goods of different origin to link them to the quality of Italian products and illegally obtain the same value recognised in the production chains of TCLF Italian industries) and to eliminate 'Italian sounding' (production and distribution of goods with names, colours, images and symbols that recall an Italian nature for the products), such as the 'TF - Traceability & Fashion' system created by Unionfiliera (an organisation created to coordinate actions for the requalification and promotion of 'Made in Italy' supply chains), which has developed a traceability system to guarantee the origin and the safety of its products. This methodology, in addition to guaranteeing the origin and safety of Italian products, allows Italian TCLF companies to distinguish themselves from their competitors in terms of transparency towards the final consumer, authenticity of the product, ethicality of the behaviour adopted and responsibility towards their suppliers.

In this scenario, digital skills will not be very important, as companies will give more priority to manual and conventional skills, secondary to green skills. While there will be more enhancement of Italy's key heritage skills, in the long run, this scenario could lead to low cross-sector exchange of workforce and skills, with many workers likely to have single-specialty skills and be trapped in one sector.

By privileging manual skills, which for Italy coincide with craftsmanship/artistic skills, this scenario puts Italy in an advantageous position for the opportunities that open up the search for increasingly personalised and unique products. It comes with the risk, however, of an unattractive image of the sector for new generations.

5.2.4.2. Jobs and skills in the *Renaissance of the Craft* in Italy

Renaissance of the Craft is the most optimistic scenario in terms of employment numbers, due to the importance of manual skills in the production process. This scenario foresees the maintenance and even creation of many small production and development units for TCLF products in proximity to end markets throughout Europe, which will require an increase in employment of people with mid-level skills, leading customers to have a positive perception towards Italian TCLF industries. In terms of the number of employees working in the sectors and the perception of career opportunities, this is the most positive scenario. It is also the most optimistic in terms of maintaining skills and know-how, returning to forgotten techniques, as well as finding replacements for retiring workers. Italian TCLF companies, especially those in leather and clothing (and the companies aimed at high-end customers in particular), but also some branches of the textile sector (such as textile fibre producers who are more attentive to new sustainable trends or who are specialised in reuse), will experience a renaissance phase, while footwear will have a medium-positive impact. This scenario will enhance the uniqueness of Italian heritage know-how in every phase of the production process and create a unique competitive advantage in the global context, mainly linked to a productive tradition and creative craftsmanship that will be based on 'circular' concepts. In particular, the Italian textile and tanning industry will increasingly adopt craft and creative practices for the regeneration of processing waste, which will form the basis for well-established business models in the coming years. This scenario will have a negative impact on companies whose production is oriented towards economies of scale or goods with low added value.

Considering that this scenario is very much linked to heritage, craftsmanship and to maintenance of the techniques that characterise the four TCLF industries, the most affected occupations will be those with medium-level skills. Using the ISCO classification as a reference point, the changes in this scenario will create a positive impact mainly amongst *craft and related trades workers* (especially in the leather/footwear sectors, which have the highest percentage of craft workers compared to the other Italian TCLF industries) and amongst *technicians and associate professionals*, whose skills will be updated according to new trends (they will involve the textile sector more, which has the highest percentage of technicians compared to the other three TCLF industries). Italy is living in an era of green and digital transformation, so traditional craftspeople, starting from their creative ideas and skilled manual art, combined with their passion and mastery,

can renew themselves and enjoy a new life, making 'Made in Italy' bloom again. In this scenario, the occupations with the brightest career potentials are Textile Technologist, Leather Technologist, and Sustainability Technician.

This renaissance will attract more young people, who can enter the industry early in their careers to learn manual, creative and highly skilled jobs, increasing the youth share of the total workforce. In textiles, the barriers to entry initially will be higher because this sector has the highest percentage of older workers who will stay in the industry because the pressure to reskill and upgrade for them will be minimal, and their experience will be required. In leather and clothing, young people will have a better chance of entering in the short term. The scenario for STEM graduates will be less attractive, with the exception of highly specialised occupations, primarily in the area of R&D (especially in textiles and clothing) and green skills.

The skills required by companies will not only be technical but will also include other soft skills that characterise the craftsman: first and foremost, creativity, passion and the search for the right forms and materials to improve and beautify their products (especially in clothing). This scenario will enhance the ability of the modern craftsman, who will not be stationary but will be in continuous evolution, in search of cutting-edge workmanship that does not distort tradition but also manages to acquire green skills to adapt production processes to the needs of new consumers who are more aware of sustainability. The companies will have very specialised senior craftspeople and will introduce low-skilled young people who will have to learn the traditional production techniques and adapt them to the modern processes. In Italy, this process of transfer of competences will be slow in the clothing and footwear sectors and faster in the leather and textile sectors where the percentage of elderly workers is greater and requires a more imminent generational change. In this context, other skills will also be important, such as physical and, especially, interpersonal skills, which are necessary for this transfer of technical skills from older workers to new young employees. In this scenario, retraining or updating skills is not a priority, except for a very small part concerning green skills. Other transversal skills will also be fundamental, such as marketing and communication skills, necessary to tell stories about the craftsmanship skills of Italian TCLF companies, to enhance the work behind Italian products and the tradition of 'savoir faire', to narrate the production processes in total respect for the environment and maximum transparency towards their customers and to tell the stories of their companies and 'Made in Italy' to the rest of the world. These activities could offer the best opportunity for Italian TCLF companies, reviving interest in manual skills and the Italian manufacturing heritage, improving the image of these industries perceived as unskilled and thus increasing their attractiveness to young people.

The *Renaissance of the Craft* also presents some threats. First of all, the strong focus on tradition and old techniques could slow down technological progress and increase the gap between these four sectors and other industries, becoming less competitive internationally. In addition, the proliferation of small companies, even micro-enterprises, even if they have a high level of specialisation, could in the long term leave them isolated and without the financial resources and technological skills to face the big industry giants, especially in the textile and clothing sectors. These small businesses could be bought by multinationals or other large foreign companies, paradoxically losing their craft identity.

5.2.4.3. Covid-19 impact on the *Renaissance of the Craft* in Italy

The *Renaissance of the Craft* is the scenario that has suffered the most from the impact of the Covid-19 pandemic, which has greatly changed the mindset of Italian consumers. During the various lockdowns, people lost a lot of interest in luxury products and foreign brands. They paid more attention to sustainable aspects and local businesses. There have been many cause-related marketing initiatives for many products, especially accessories (scarves, gloves, ties and leather bracelets), encouraging consumers to buy Italian products and contribute to the survival of many small companies in their territories. In this context, customers have increased the value of national craft products and handmade items, acquiring the perception that a product with a higher craft component has greater value.

With the pandemic, a new consumer has emerged who is more aware of sustainable aspects and who has acquired a social conscience. Not only that, but they have become more post-modern, in the sense that they have understood that they can also shop online and can customise their products, enhancing their uniqueness, one of the main characteristics of the craft production feature of TLCF companies. The pandemic could have a negative impact on the workforce, since it has caused many deaths in Italy, especially amongst the over-60s, which could not only slow the process of transferring high-skilled techniques and heritage to young workers but also leave a skills gap in companies, especially in textiles and leather.

5.2.5. *Walled Gardens* in Italy

5.2.5.1. Summary



Job situation in *Walled Gardens* scenario based on ISCO clarification



FIGURE 5.5.

WALLED GARDENS

- EU PERSPECTIVE

Rise of regionalism and protectionism stifles global trade flows and enables existing regional production clusters in Europe to survive and thrive.

Character of impact for the TCLF industries

Positive C T L F Negative

Production focus

The industry will focus on manufacturing of goods that are globally competitive, especially in the context of costs of production. The importance of clusters will increase.

Main drivers of change

Regulation and policy & Economic and globalisation.

Jobs of the future

This future scenario may deepen the differentiation among the location of the workforce, creating gaps between regions and gathering more skilled employees only in certain areas of Europe.

Skills of the future

Demand for physical and conventional skills will dominate over green and digital skills. The retirement of the workforce may lead to disappearance of certain knowledge.



Source: Skills4Smart TCLF Industries 2030

Walled Gardens represents a scenario in which existing TCLF manufacturing clusters and related occupations are maintained with relatively little change, based on a policy and regulatory framework that includes more international trade barriers and that reduces competitive pressures and the need for rapid technological change.

This scenario is very much related to *Selective Leadership* but presents a more pessimistic view because it does not involve technological development and skill upgrades, but rather strong localisation of production with developed manufacturing facilities and workers with medium to low skills. The *Walled Gardens* scenario presents a negative future for the footwear and leather industries and a neutral future for clothing and textiles.

The main drivers of change in the *Walled Gardens* are *regulation & governance* and *economics & globalisation*. From the point of view of regulation, the drivers of change with the greatest impact are *TCLF a new priority in policy* and *protectionism*. In Italy, the productive clusters are protected by the financial law for 2006 (L. 266/05) to value the specificities of the Italian production system that is composed mainly of SMEs, whose typical organisational model is constituted from the industrial clusters. The discipline is aimed at increasing the development of the areas and sectors concerned and improving efficiency in the organisation and production. Another important driver of change is *technical standards and regulation*, which have a strong impact on the production processes of companies, especially those in the textile, leather and clothing sector, which must comply with many stringent rules (e.g. EU Regulation No. 1007/2011) regarding the names of textile

fibres, how to label textile products and products that refer to the terms 'leather' and 'fur', as well as the documents that accompany textile products in the various production cycles. Moreover, given that this scenario enhances manufacturing clusters that are strongly localised geographically, the impact of the national, but above all regional, administrations will be decisive, because each region will protect its own clusters. In fact, the Italian production system is distinguished by a high number of SMEs characterised by accentuated localism of production, representing without doubt one of the backbones of the national economy and quantitative, but also qualitative, development that has no equal internationally.

The reforms will have an impact on the survival of Italian clusters, which are the expression of bottom-up industrial development reflecting the capacity of economic, social and institutional forces present in a given territory that is able to promote itself and exploit these resources in terms of human capital, raw materials and locally available knowledge. Cluster companies will increasingly focus on more defined market niches and increase exports to new markets. The *new export markets* driver of change will have the greatest impact on this scenario, followed by *production costs, fight for energy, storage and technology* and *access to external financing*, which will direct production towards the most cost-efficient techniques. The risk is that companies in these clusters will become less and less competitive, because they will rely on regional support and backing without investing in technology and R&D, leading to the disappearance of branches or even entire sectors in some territorial areas, increasing unemployment and the negative perception of the TCLF industries in Italy.

This scenario will not influence the workforce in quantitative terms, because the scenario does not foresee technological or skills development but the preservation of the total number of jobs, without foreseeing large increases in new jobs. On the contrary, this scenario will influence the Italian workforce in qualitative terms, because workers without training programmes will possess specific but increasingly obsolete skills, even accentuating the differences in skills between one cluster and another, between one region and another, between one industry and another and between TCLF industries and the remaining Italian ones: the result could be that in the long term companies may become less and less competitive in an environment dominated by Industry 4.0 and new technologies.

5.2.5.2. Jobs and skills in the *Walled Gardens* in Italy

For Italy, this scenario foresees a fragmented future depending on the location of the clusters, which are characterised by a complex web of subcontracting relationships articulated in broader supply chains. In Italy, the National Observatory of Italian Clusters identifies as many as 36 clusters in the TCLF industries, involving various geographical areas and strongly differentiated according to the specialisation of their production – from leather to textiles and from footwear to sportswear. Therefore, in the *Walled Gardens*, the focus is on the location of production, rather than on changes in terms of the type of goods produced or technological development in materials and machines. Consequently, there will be Italian regions (such as Tuscany, Veneto and Lombardy) with

a high concentration of workers in the TCLF industries, where the most competitive manufacturers will continue their operations without significant changes. In these regions where TCLF industries are located, this scenario may have a positive impact on companies looking for nearshoring opportunities.

In this scenario, companies, especially in certain sub-branches of textiles (weaving and knitting) and leather goods, will look for workers with medium and low skills, with an emphasis on *elementary occupations* and *craft and related trades workers*. With the absence of technological developments and the strong retention of experienced but older workers, there will be a decrease in the inflow of young people and STEM graduates. This will inevitably lead to an increase in the average age of the workforce and a lowering of the average level of qualifications, reinforcing the stereotype of a traditional and outdated industry. Not only that, but older workers, while on the one hand they will feel less threatened to retrain, on the other hand, they might feel pressured to always perform a small range of tasks, with no career possibilities. In this Italian scenario, the brightest career potentials are in all the sectoral profiles and the Process and Production Timeline Analyst.

In the *Walled Gardens*, the scarce technological changes and the lack of attention towards a more sustainable orientation will influence the demand for skills by Italian TLCF companies, which will require more conventional and manual skills rather than green or digital skills. As this scenario foresees the reinforcement of occupations requiring low/medium qualifications, companies will look for workers who know how to use and maintain production machines rather than ICT as working tools. In particular, in production clusters, companies will look for specialised skills for their production activities.

In some ways in Italy, this scenario is comforting because it allows the employment of older generations to continue, without the threat that they may be dismissed for lack of up-to-date skills or without the pressure to upgrade between all levels of qualifications. It will certainly not increase the level of unemployment in the Italian TCLF industries, especially in the textile and footwear sectors, which have recorded an increase in unemployment in recent years.

However, there are many threats in *Walled Gardens*. First of all, there may be the risk of concentrating on only a few productive activities and of underestimating the problem of an adequate generational turnover, thus causing the dispersion of much highly specialised knowledge and many skills. Moreover, the strengthening of local realities and the concentration of geographically localised productive activities could lead to the consequence that many Italian clusters could be too isolated and over-specialised, thus decreasing inter-sectoral mobility and the improvement of productive capacities, leading to being less competitive at a global level. Moreover, this is a scenario that ignores the change currently taking place in the TCLF industries, which requires the development of new business models, more efficient operations and the highest attention to the customer experience. Not only that, but this scenario could distort the added value and the Italian know-how that is based on R&D, high product quality and great craftsmanship and creativity, leading to the risk of loss of positioning of Italian TCLF companies in the world market. Finally, *Walled Gardens* would increase the poor attractiveness of the sector, whose image would not be modernised.

5.2.5.3. Covid-19 impact on the *Walled Gardens* in Italy

The Covid-19 pandemic has had a two-sided impact on the *Walled Gardens* scenario. In the first phase, it had a negative impact because it isolated more manufacturers who tried to survive the crisis, and it decreased the exchange of knowledge and innovation. In contrast, there were drivers of change that had a positive impact on Italian TCLF industries: the *EU Recovery Plan* and *new export markets*. After the initial lockdown, in 2021, Italian companies took advantage of this scenario and increased exports. In April 2020, expectations for the end of the year were very pessimistic, but now the situation is more optimistic, so much so that the World Trade Organization predicted growth of almost 11% compared to 2020 and a continuation of growth of 4.7% for 2022. It is clear that a large proportion of exports of 'Made in Italy' goods have been the result of specialised local production systems, in which cooperation and competition coexist and in which complex supply chain interactions have been created starting from territorial matrices. It is true that Covid has caused a very bad setback to international trade, and the various lockdowns have interrupted these flows, but in the first half of 2021, exports from these areas grew by almost 28% compared to the same period in 2020 and by about one percentage point more than in the first half of 2019. This is also a very good result, considering that several clusters have a strong specialisation in sub-branches of the four TCLF sectors.

In Italy, many territorial areas have a strong presence of clusters. At the same time, this very presence has led to a greater ability to react. In the first half of 2021, many provinces with the greatest effects from the production lockdown showed the best recovery performance, a rebound largely attributable to good performance in international markets. Not only that, but the pandemic has also had the effect of shortening subcontracting chains. Therefore, the cluster formula is still a current competitive method for Italian territorial systems, which has been strengthened and therefore requires new and more current attention from development policies, including in the recovery plan scenario.

5.2.6. Industrial Sunset in Italy

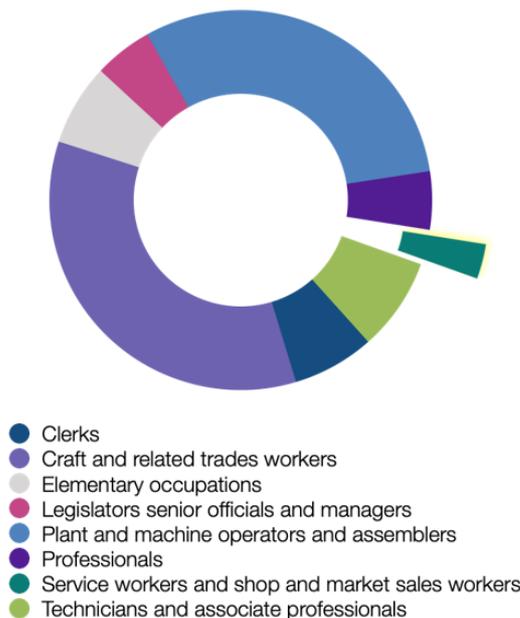
5.2.6.1. Summary



INDUSTRIAL SUNSET

- EU PERSPECTIVE

Job situation in Industrial Sunset scenario based on ISCO clarification



The global race to the bottom fuelled by cheap, fast fashion continues unabated and drives most TCLF production to lowest labour cost locations outside Europe.

Character of impact for the TCLF industries

Positive



Negative

Production focus

The industry will face a significant decline in terms of the volume of the production. The types of production that will remain in the market will be focused mostly on component of the final items or on a premium goods (*Made in EU* label).

Main drivers of change

Regulation and policy & Changing consumer demand.

Jobs & skills of the future

In the context of job and skills, this is the most pessimistic scenario for TCLF industry. Due to the outsourcing the job demand will be limited and focused mainly on the replacement.

Lack of evolution of the industry will suppress development and exchange of skills. Digital skills will focus mainly on interaction with customers.



FIGURE 5.6.

Source: Skills4Smart TCLF Industries 2030

Industrial Sunset foresees a scenario in which most TCLF production moves from Italy to countries with lower labour, material and environmental costs. This scenario is the most pessimistic of the five scenarios and envisages a kind of 'race to lower prices', as fast fashion and consumer purchasing decisions are made on the basis of price. In Italy, this scenario would have a negative impact on the number of jobs, because there would be a decrease in production volume or even the cessation of some activities for some manufacturers; only companies offering high added value with a strong brand or a high number of loyal customers would be saved.

The *Industrial Sunset* would involve all four Italian sectors facing a negative scenario, but the worst situation could be faced by clothing and footwear manufacturers in the low value-added segments, who are targeting consumers who have changed. In fact, one of the drivers of change that has most influenced this scenario is the *new consumer*, who is increasingly inclined to *buy online*, to follow the various *influencers* active on the main social networks and to look for products that represent their identity and values. This is especially true for the younger generation of consumers, while the older generation will still orient their purchasing decisions towards local products with a strong craft component and high-quality products, while always looking at the price.

Another group of drivers of change related to *regulation & governance* will influence this scenario: *technical standards and regulations* and *protectionism*, especially, will have a specific impact. In fact, in Italy, there is a major legislative problem that does not protect the real 'Made in Italy' at all, allowing many brands to import practically finished products, perform a few manufacturing steps in Italy and apply the 'Made in Italy' label, thus penalising (on a commercial level) all those companies that really do produce in Italy. In this scenario, there will also be more and more places where production is completely in the hands of foreign workers, often exploited by Italian entrepreneurs. In this way, real 'Made in Italy' products (which comply with strict technical regulations) will have a higher cost than products made in other countries of the world. This will have a negative impact on production because, despite the fact that the Italian manufacturing in the TCLF industries can be considered amongst the best in the world, many consumers will prefer cheaper products.

Therefore, in Italy, where 98.1% of companies are SMEs, there will be an inexorable decrease in production, aggravated also by the increase in fast fashion. Only big companies, the ones that are more structured and can benefit from large economies of scale, will remain on the market and participate in strong competition based on price, because they have more managerial skills and are more easily able to delocalise some processes. The number of SMEs in all four industries will decrease a lot, because in this competitive arena they will not have the financial resources to compete, especially against companies that use cheap labour. It is easy to understand why most products, especially textiles linked to fast fashion and large-scale distribution, cost significantly less when they are produced in countries where labour costs are well below average. Italy is also one of the countries that pays the most for electricity, even compared to other European countries. Certainly, excise duties and consumption taxes play a major role in increasing the costs that an Italian company has to pay. For example, the electricity consumption of a single loom for weaving in Italy can cost 13,500 euros, while in Portugal it costs 8,400 euros, in Bangladesh it costs 5,200 euros, and in Sri Lanka it costs 3,160 euros.

This scenario will also have a negative impact on skills needs and employment. The lack of evolution of Italian industries will suppress the development and exchange of know-how and experience, which will further delay the TCLF sectors' ability to survive global competition.

5.2.6.2. Jobs and skills in the *Industrial Sunset* in Italy

The employment future of this scenario in all four TCLF production sectors will be linked to the ability to exploit the 'Made in Italy' label, the highly specialised production and the support that has arrived and will arrive from the Italian State and the EU. For this reason, it will be strategic in the *Industrial Sunset* to have a qualified workforce able to ensure quality and efficiency for the companies. This is not obvious for companies in the Italian TCLF industries. In the last 5 years, 76% of Italian companies in these sectors have had to acquire a qualified workforce, while 47% have had difficulties in finding the personnel they need. These difficulties are even more pronounced in smaller companies (10–49 employees), clothing companies and those companies located in North-East and South Italy. Companies will find it more difficult to find skilled workers such as weavers,

knitters, tailors, machine tool operators and garment makers. Due to the lack of workers with these required skills, most companies will have to give up or postpone the search for the skilled workers they need, leading to a loss of high-level technical skills at the expense of low-to-medium-level skills and an increase in managerial skills to reduce costs.

In this scenario, many Italian manufacturers will be forced to downsize or even close down their production and will have to lay off younger and less experienced employees as a first step, which will lead to an increase in the negative perception of the four TCLF sectors as unpromising places for a career. This will particularly discourage STEM graduates and people looking for a career change. In the medium to long term, the workforce in the four industries will have a decreasing share of young people, consisting of young people looking for a temporary job to maintain their studies.

Using the ISCO classification, changes in production processes will strengthen *service workers and shop and market sales workers*, who will follow the creation of new sales channels, both offline and especially online, to satisfy new consumer trends. In this scenario, logistics workers and purchasing office workers will also be indispensable for obtaining cheaper raw materials, as will marketing workers for developing winning strategies and improving the competitiveness of companies. From the list of occupations for which the S4TCLF project partners have developed MOOCs, those with the brightest career potential are *digital marketing professionals* and *supply chain analysts*.

The *Industrial Sunset* will lead to the exit of medium- and low-skilled workers, while the numbers of high-skilled workers will remain stable in this scenario. This will negatively impact the Italian footwear/leather sectors especially, which have only 6% of their workforce with high skills, while clothing will be the sector where it will impact the least (10% of the workforce is highly skilled). Slowly, with the retirement of the most experienced TCLF workers, many sectoral and traditional skills will disappear, especially those related to manual and craftsmanship skills, losing the great Italian heritage. In this scenario, green skills will not be a priority, despite increased awareness of sustainable issues amongst consumers and a strong focus on government policies. Digital skills will become more relevant, especially those related to digital marketing, to better exploit new sales channels and satisfy new customer needs. These skills will be very important, especially for manufacturers with highly specialised production who operate globally to be able to increase exports of their products outside their national boundaries.

This scenario is the most pessimistic of the five analysed for Italy, because the race to lower prices, the lack of innovation and the gradual loss of competitiveness of Italian companies will lead not only to a drastic reduction of the workforce in the Italian TCLF industries but also to a cross-sectoral decrease and disappearance of many important sectoral skills and much knowledge. The only opportunity could be the exploitation of the 'Made In Italy' effect, which, together with digital marketing strategies and the implementation of loyalty techniques, could guarantee a hard core of customers that could help companies in the four TCLF sectors to survive. However, in the long term, the attractiveness of Italian products could decrease. In fact, Italy could be penalised by high production costs, especially for workers. The lower skills required in fast fashion could benefit production in countries with lower labour costs, less protection for workers and where manual labour is still attractive, to the detriment of sustainability. In this scenario, big companies will have

a better chance of success as they will be able to select suppliers and subcontractors on the basis of organisational-management skills. Not only that, but they will also be able to rebuild educational training systems in countries with lower labour costs, especially if processes are less linked to professional skills and more digitalised.

5.2.6.3. Covid-19 impact on the *Industrial Sunset* in Italy

In this scenario, the pandemic has affected all TCLF sectors, because it has mainly affected the working capital requirements of companies in the sector, as well as sales opportunities. It has become more difficult for companies to produce and sell, but above all, they are doing so more slowly. Business closures, prolonged lockdowns, the slowdown of global supply chains, but also the reduced propensity of Italians to buy were the factors behind this trend, which caused problems for the Italian supply chain, from wholesale to retail. Therefore, the pandemic has had a negative impact on this scenario, affecting manufacturers' competitiveness and career opportunities.

Consumption habits have changed considerably in recent years, and the Covid-19 pandemic has only accentuated some of the drivers of change that were already underway, with environmental, but also social, sustainability at the centre of the new consumer's attention, together with the search for new products in online sales channels and the purchase of low-priced products. The pandemic has accentuated the weak points of this scenario, which are represented by aggressive competition from emerging countries such as China, the vulnerability of global supply chains to external shocks (pandemics and trade tensions) and very strong pressure from major customers. E-commerce, in addition to continuing its rapid development, will increase price competition and the success of the rapidly growing second-hand and vintage market. In this scenario, the Italian TCLF industries will be disadvantaged, and if they are not included in the priority list of the Italian government's recovery plan, these industries will be ignored and left to fade away.

Despite the negative forecast, the positive impact of Covid-19 can be seen in the increase of digital skills and competences in the areas of e-commerce and digital marketing, as well as an increase in the output of companies specialising in PPE, sportswear, luxury and designer goods, which is continuously growing.

5.2.7. Perspective on the five scenarios in Italy

Based on the results of the survey conducted in Italy amongst 77 stakeholders representing policy, education and industry, together with the results of the analysis conducted and presented in this chapter, the scenario that has the highest potential to happen is *Selective Leadership*, followed by *Renaissance of the Craft* and *Brave New World*. The *Walled Gardens* and *Industrial Sunset* in particular were judged very improbable, in the opinion of the interviewees, because the Italian TCLF industries are going in a very different direction, helped also by new recovery policies that will support the four Italian TCLF sectors in the next few years.

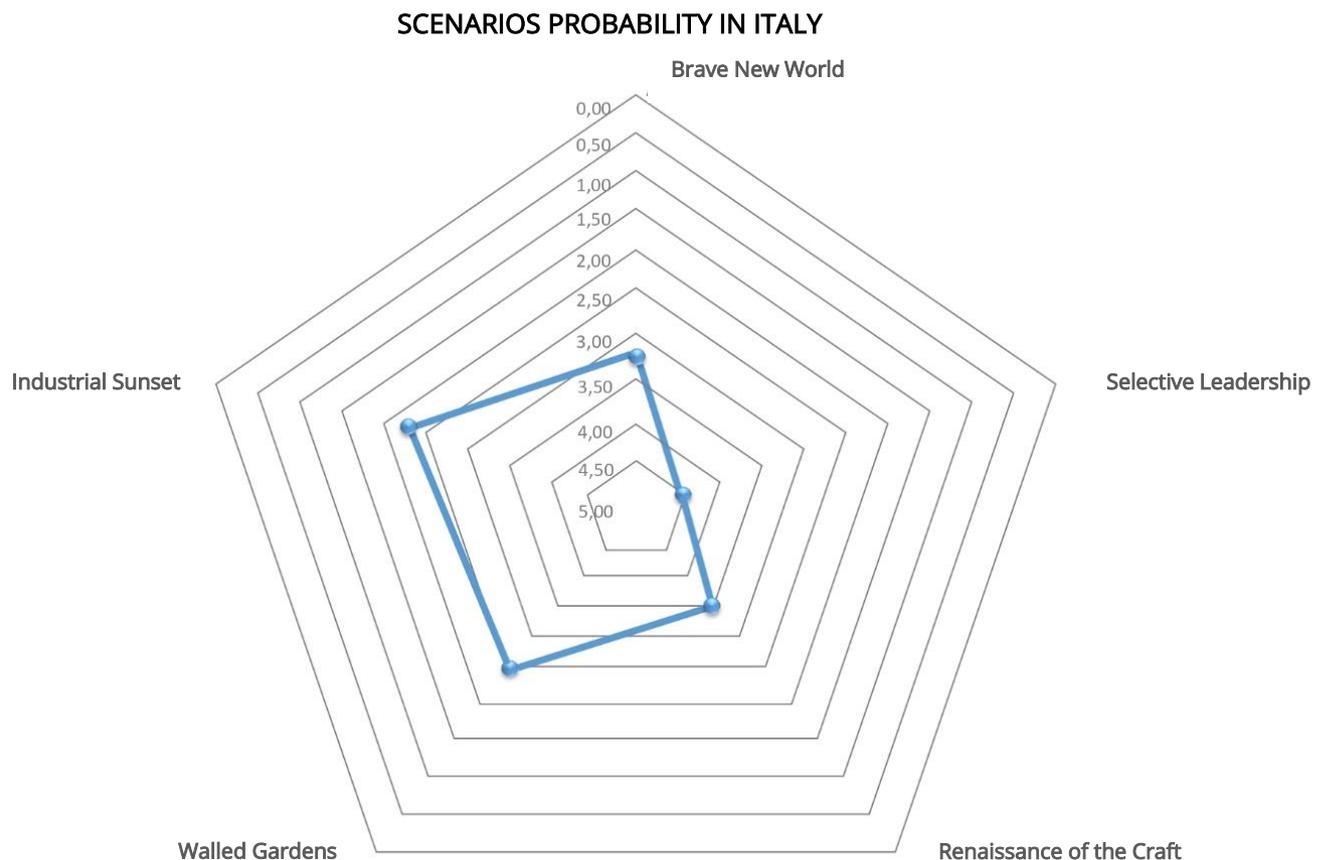


FIGURE 5.7.

Source: our elaboration based on survey

During the survey, the interviewees agreed that the most optimistic scenario with the greatest chance of occurring in Italy is *Selective Leadership*, because ‘it appears more in line with the very strong selection processes set in motion by the new millennium, even if high quality and technology cannot be considered the only production areas of differential value’. In fact, Italy’s uniqueness is in the ‘strong reticular organisation typical of industrial clusters’, an organisation that has many advantages, including the ability to preserve skills and know-how, both industrial and craft, which leads to a high level of specialisation of activities. Looking to the future, there is another important point: the link between companies and their territory, many of them small- and medium-sized, which almost naturally generates a focus on social and environmental sustainability, will be the competitive advantage for the future of Italy’s four TCLF industries. To achieve this goal, it is

also 'very important to create programmes for continuous training and updating of workers, because the increase in automation and the spread of Industry 4.0 in production processes and business models will increase the skills required for profiles that are increasingly less replaceable'.

According to the stakeholder survey, the second most probable scenario is *Renaissance of the Craft*, because it enhances the manufacturing and craft character of the Italian TCLF industries. Italian companies, in order to differentiate themselves from those of other countries and to be more competitive, in the coming years will communicate their craft skills and enhance the work behind their products, narrating their production processes that enhance the tradition of 'savoir faire', exploiting the 'Made in Italy at [the] global level'. According to the stakeholders interviewed, 'the value of Italian creativity must also be considered in medium but very trendy segments'.

Competitiveness in this field cannot be expressed by isolated production units but by localised production systems of a cluster. Therefore, this scenario will be very much adapted to the Italian manufacturing characteristics and the cluster nature typical of Italy. On the one hand, this scenario will bring back interest towards manual skills and the Italian manufacturing tradition (also increasing the attractiveness towards young people); on the other hand, 'small units and employment with medium level skills have less resistance on the market and little propensity to adapt to the changes taking place', as some stakeholders claim.

The third scenario in Italy, almost as probable as *Renaissance of the Craft*, is *Brave New World*, as it is in line with the recent National Recovery and Resilience Plan (PNRR), which supports sustainability and digitalisation, and the Decree of the Minister of Economic Development of 18 May 2021, which is aimed at 'supporting the textile industry, fashion and accessories industry, with particular regard to start-ups investing in design and creation, as well as with the aim of promoting young talents in the textile, fashion and accessories sector that enhance "Made In Italy" products with high artistic and creative content' through the provision of non-repayable grants. Based on stakeholder responses, 'the digital transformation involves all production sectors and requires new professional skills in the interaction between human and machine and skills capable of evolving in parallel with the change', which will continue the process undertaken by the Italian TCLF industries towards Industry 4.0 and the new technologies, which will modernise them and thus attract new generations of workers.

After examining the interviews and the related analysis, we can conclude that these three scenarios are interconnected and can coexist with some nuances. The important factor is that the conditions can be created for technology to be accepted through specific actions in the organisational models of TCLF companies, which are still too anchored to old models (mainly typical of the linear and traditional economy). A substantial share of Italian TCLF companies still considers the relationship with local subcontractors and sub-suppliers fundamental for the quality of services and products, for the possibility to customise them, for flexibility, for reliability and for the specialisation of the workforce, which are unmatched in Asia or Eastern Europe. To maintain their competitive advantage in the high-end segment (a segment that is expected to grow by 42 billion by 2023), Italian TCLF industries should invest in sustainability, quality and innovation.

Finally, all scenarios should carefully consider the new drivers of change, some of which have been enhanced by the Covid-19 pandemic, to guide their strategic lines and production in the

coming years. Investments in sustainability and new technologies, together with the improvement of the quality level of the products manufactured, will be the best possible scenario for the Italian TCLF industries.

6. Development and implementation of the sectoral skills strategy at European, national and regional levels

6.1. Development of the Sectoral Skills Strategy for the TCLF industries – process and key enablers

The main objective of the Sectoral Skills Strategy is to analyse the potential future of the TCLF industries, identify influential groups of stakeholders and develop a set of recommendations and activities. Implemented adequately, the strategy can successfully address skills challenges and enhance the attractiveness and competitiveness of the sectors in the coming decade.

The development and implementation of a skills strategy for the TCLF industries is a complex process, comprising the steps that precede the establishment of the strategy itself. In general, it consists of the following steps: (1) establishing the strategy's scope and aim, (2) exploring and analysing the micro and macro environments, (3) developing scenarios based on critical drivers of change and (4) developing strategic options and recommendations⁴. This chapter is dedicated to the last stage of the process – the strategy.

Due to the character of the TCLF industries, the creation of a 'one-size-fits-all' strategy that would cover all four sectors was identified as ineffective and potentially harmful. The reason is the differences between the labour- and capital-intensive sub-sectors required for production resources, links to other sectors outside the textile ecosystem and whether we are considering a business-to-business (B2B) or business-to-consumer (B2C) operation focus. Moreover, a single strategy developed as an extension of the current situation into the future is a standard status quo bias that slows down adaptation to actual changes.

To address this challenge, this document transforms the collected research into five future scenarios for the TCLF industries to accommodate the differences between sectors and sub-sectors. That includes acknowledgement of differences between the labour- and capital-intensive parts of the industries, the required resources, links to other sectors outside the textile ecosystem and a B2B or B2C operation focus.

To address the differences between the TCLF industries, a national strategy was developed based on the adaptation of the European-level document and additional primary and secondary research. Similar to the European-level strategy, this analyses the national reality in terms of production, employment and trends and adapts five scenarios and recommendations accordingly. The primary research included a series of interviews conducted with key stakeholders in nine partner countries⁵, as well as the outcomes of other interactions that took place during the project activity. This approach allowed us to minimise misdirection of the efforts and to facilitate sectoral, national or regional level customisation of the actions based on European and holistic views.

⁴ Based on Copenhagen Institute for Future Studies methodology.

⁵ V.3 results reference.

The scenarios presented in the previous chapter are the starting point in setting up the recommendations for three types of stakeholders: policymakers, industry representatives, and education providers (shortcut: PIE). As the recommendations focus on actions oriented towards production and not the consumption side of the ecosystem, as well as due to the character of this document, society stakeholders are ruled out. The first group of stakeholders includes representatives of national and regional governments. Industry representatives include sectoral associations, clusters and companies (both large enterprises and SMEs), as well as start-ups. The last group prioritises entities connected to secondary education, initial and continuous VET and higher education institutes (HEI). This division allows for the establishment of a more customised set of actions that incorporate the specific interests and capabilities of the actors, leaving at the same time more flexibility and decision-making power in the hands of single entities.

The Sectoral Skills Strategy for the TCLF industries is a complex tool both from the horizontal as well as the vertical perspective, and its success relies heavily on joint collaboration between all groups of stakeholders, consistent engagement over time and the establishment of links with external initiatives that could contribute to the success of the strategy's implementation.

6.2. European and national level developments as key enablers of the skills strategy for the TCLF industries

The national strategy is inspired by the European strategy, especially when considering the macro-environment and initiatives aimed at providing resources for TCLF industries to develop their businesses and the skills needed to improve their production and competitiveness.

Many of the EC's initiatives and strategic lines are often translated into national strategies, which is why the authors of this paper first looked at the development and initiatives at the European level, which are crucial for TCLF industries, including those that do not directly address the textile ecosystem, such as the *European Textile Strategy* or the *Pact for Skills for the TCLF Industries*. This includes 6 priorities set for the years 2019–2024, such as the *European Green Deal*, *A Europe fit for the digital age*, *An economy that works for people*, *A stronger Europe in the world*, *Promoting our European way of life* and *A new push for European democracy*. While all are important, the focus should be on the first two in terms of opportunities and impactful changes for the four TCLF sectors.

Unfortunately, the number of EC initiatives dedicated to the TCLF sector is still limited, although there has been a marked improvement over the previous decade, as the textile ecosystem was included in the Industrial Strategy 2020, which was established to support the green and digital transition of European industries, and addressed in Europe's recovery plans decreed to combat the negative impact of Covid-19. Although this initiative did not bring direct financial resources to companies, this form of recognition of the TCLF sector could bring other forms of support in the coming years.

One example of these developments is the establishment of the *Pact for Skills for the TCLF Industries* in December 2021. This initiative, led by EURATEX with support from European Footwear Confederation (CEC) and Confederation of National Associations of Tanners and Dressers of the European Community (COTANCE), aims to address five upskilling challenges in the TCLF industries through combined collaboration and projects that involve policymakers from national and regional governments, industry stakeholders (companies and associations), as well as education providers representing VET and HEI. Entities that endorse the initiative will receive financial, administrative and networking support from the EC. While other initiatives focus primarily on competences and skills for education stakeholders, the Pact for Skills aims to involve all types of stakeholders equally. From the perspective of the Sectoral Skills Strategy, the development of the Pact for Skills should be considered crucial for the successful implementation of the listed recommendations.

The European Sustainable Textiles Strategy, which was published in April 2022 after a series of public consultations, focuses mainly on sustainability and the impact of the TCLF industries on the environment and society. Linked with the European Green Deal, the Circular Economy Action Plan and Industrial Strategy aim to support industrial competitiveness, sustainability and innovation, while stimulating the European market for sustainable and circular textiles. It should be closely observed, especially by industry stakeholders, while from the point of view of education providers, it will lead to the understanding of new trends rather than, for example, the funding of new and modernised curricula.

In the area of sustainability and the circular economy, special attention should be paid to developments in the Product Environmental Footprint, Due Diligence, EU Ecolabel, Extended Product Responsibility, Green Public Procurement, Traceability, End-of-waste criteria and the continuous modifications of REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals). Those regulations will bring the potential of change, particularly for industry stakeholders, while policymakers will have to adapt to the new reality, and education providers will have to adapt their curricula. This will be particularly important in implementing recommendations from the *Renaissance of the Craft* and *Selective Leadership* scenarios.

Another important initiative is the European Institute of Innovation and Technology (EIT), which is Europe's largest innovation ecosystem, bringing together almost 3,000 partners from Europe's major business, research and education organisations. The EIT, which has already established eight Knowledge and Innovation Communities (one of which focuses on the manufacturing industry), will create a new innovation partnership that will support the competitiveness and growth of Europe's creative industries and sectors, helping to take advantage of untapped economic opportunities in many sectors, particularly in design and fashion. This is an important European step, because the EIT call considers the TCLF industries as creative sectors, providing around €300 million of EU funding also to prepare future entrepreneurs through entrepreneurship education courses, to provide innovative products and services to businesses, to nurture cutting-edge companies and to fill regional innovation gaps. It has potential primarily for industry and political stakeholders, as it can support the implementation of new strategies and activities to increase the TCLF sectors' competitiveness and improve the skills and competences of the workforce.

Often, some EC programmes do not directly include TCLF sectors but can still support changes in the TCLF industries. Examples include the Interregional Innovation Investments (I3), the European Regional Development Fund (ERDF) and the European Innovation Council, as well as European programmes and funding opportunities, such as Erasmus+, Horizon Europe, the Digital Education Programme, the European Social Fund Plus (ESF+), the European Globalisation Adjustment Fund (EGF), the European Instrument for Temporary Support to Mitigate Unemployment Risks in an Emergency (SURE), the Just Transition Fund (JTF) and InvestEU. The listed initiatives operate as grants or loans, with the majority having their programming period and budget established for the years 2021–2027. Due to the diversity of priorities and calls, all those initiatives can support the implementation of the selected strategies, no matter the scenario, and most focus on upskilling and reskilling opportunities and the competitiveness of the European workforce.

Importantly, Covid-19 brought changes not only in terms of production, but also in European and Italian policy. Following the outbreak of the pandemic and the subsequent closures and restrictions, many European countries, including Italy, implemented measures to decrease the pandemic's negative impact by providing financial support or other types of incentives. For example, in response to the Covid-19 crisis, Recovery Assistance for Cohesion and the Territories of Europe (REACT-EU) was established, with a programming period between 2021 and 2023. The aim of the initiative is to promote overcoming the negative effects of the pandemic crisis on the economy, employment and social systems of the regions affected by Covid-19 and to encourage the resilient green and digital transition of the economy and society, so as to inject more rapidly into the economy the resources needed to make investments targeted for the recovery of the most affected countries. REACT-EU has a budget of EUR 50.6 billion at the EU level, of which the total amount reserved for Italy is approximately EUR 14.4 billion. These resources not only constitute important support for business liquidity through the strengthening of the Fund of Central Guarantee (FOGA) for SMEs but also reinforce the National Strategy for Sustainable Development, considering the recommendations contained in the *Country Report Italy 2020*. Therefore, bonuses will be provided to enterprises for hiring young people and women, green and innovative workshops will be set up in secondary schools, and interventions for the purchase of innovative machinery will be financed as part of investment programmes aimed at the technological transformation of enterprises, such as the adoption of technologies enabling the transition to digitalisation, the sustainability of production processes and the circular economy. Moreover, the adoption of innovative machinery in Central and Northern Italy is facilitated by the provisions of the so-called temporary framework scheme, which introduces derogations and flexibility for the granting of state subsidies to SMEs to counteract the damage caused by the pandemic on businesses, supporting their relaunch. This scheme introduced a new framework that allows the concession of subsidies until 31 December 2022 to support investments by Italian SMEs for sustainable recovery.

Some initiatives implemented during this difficult period have provided the inspiration to include TCLF industries in the *Recovery and Resilience Plan*, the fund that provides financial support for reforms and investments implemented by Member States to mitigate the social and economic impact of the coronavirus pandemic and to make EU economies more sustainable, resilient and better prepared for the challenges presented by the green and digital transitions. As the main

pillars of this initiative include the green and digital transition, as well as smart, sustainable and inclusive growth, it presents an opportunity for including the TCLF sector in national plans and linking to the recommendations proposed in the following chapter. In Italy, this approach has been followed in the National Recovery and Resilience Plan (PNRR), the plan approved in 2021 by Italy to relaunch its economy after the Covid-19 pandemic (Italy has been allocated EUR 191.5 billion, of which EUR 70 billion is in non-repayable grants and EUR 121 billion in loans), to enable the country's green and digital development. In particular, the fashion supply chain is amongst the six strategic supply chains identified by the plan and to which investment projects linked to the digitalisation, innovation and competitiveness of the 'Made in Italy' supply chains are allocated, also favouring industrial reconversion processes.

All the initiatives and programmes mentioned above can be linked to recommendations for all types of stakeholders, as they concern various aspects of the competitiveness of manufacturing sectors, from a skilled workforce to a focus on innovation and R&D to sustainability and the circular economy. Besides the *Recovery and Resilience Facility* plans that focus on responding to national needs, most of the mentioned examples add value through European cooperation and the exchange of knowledge and expertise. This is particularly important for the scenarios of *Brave New World*, *Selective Leadership* and *Renaissance of the Craft*.

6.3. Strategy recommendations for policymaker, industry and education provider stakeholders

Five scenarios of how the TCLF industries will look in 2030 set the ground for the development of a series of recommendations for policymakers, industry representatives and education providers. The end goal of improving competitiveness as well as the image of the sectors and responding to the skills gap, no matter what the future will look like, leads to the formation of recommendations that are universal and applied to all scenarios and stakeholders. That includes, amongst others, participation in joint activities that cover both analysis of the situation and implementation of the required measures via projects, advisory committees, expert panels, networks and hubs. The key to this success is to ensure long-term collaboration and an equal level of engagement.

The second universal area of collaboration for all stakeholders focuses on minimising the skills gap. This can be achieved by providing support and incentives (from policymakers), modernising the curricula (implemented by education providers) and sharing both knowledge and innovations as well as further needs (which can be achieved only through the engagement of the industry representatives). While in this case, every entity brings different elements, they are all of equal importance and key to reaching the goal.

Last but not least, amongst the universal recommendations is the development of a campaign promoting the TCLF industries with support from policymakers, incorporating best practices and heritage collected by industry representatives and education providers. The target group should be European customers in order to increase awareness of the craftsmanship and presence of the textile ecosystem in their daily lives but first of all youngsters, both underrepresented in the TCLF

employment statistics and a crucial element of the prolongation of the skills and craftsmanship of the retiring workforce. While the promotion campaign will play a key role in the *Renaissance of the Craft*, it also has an impact on *Industrial Sunset*, as the TCLF industries will still need employees, even if not to such an extent in production.

6.3.1. *Brave New World*

The *Brave New World*, as analysed in the previous chapter, is a scenario that sees an industrial future with higher levels of automation and digitisation, which would lead to a faster decline in manual jobs and simple process operations involving basic machine functions, not fully offset in numbers by a growing share of highly skilled professionals. This scenario, with the rapid adoption of advanced digital manufacturing technologies and new business models, will completely change the TCLF sector by 2030, advancing production processes but also greatly affecting the workforce, which will have to upgrade and reskill.

First of all, the creation of clusters and the strengthening of collaborations between SMEs will be very important for companies. Italian TCLF industries are characterised by good networking practices (e.g. industrial clusters), but in this scenario, where higher levels of digitisation and automation are required, features not strictly relevant to Italian SMEs, the importance of having access to collective expertise through networking and clusters should be emphasised. TCLF companies must integrate themselves into the *Brave New World*, to the rules and technologies of this scenario and not vice versa; otherwise, they could be pushed out of the market, in contrast to the companies that will know how to adapt and be able to preserve Italian manufacturing excellence. In a context in which some TCLF sectors, such as textiles, have lost half of their workforce in the last 20 years, it is necessary for companies to create a system and aggregate in order to be competitive in this scenario characterised by the introduction of high-tech production systems and to access the innovations that the market requires. In Italy, collaboration between SMEs is fundamental, because many small companies know how to produce but do not know how to sell, while many companies that know how to sell do not know how to produce. With access to collective expertise through networking and clustering, Italian manufacturers, especially SMEs, may not invest in automation and digitisation due to endogenous and exogenous factors (such as the recent economic uncertainty and financial pressure) and do not always have the necessary internal resources (logistical, financial, technical, etc.). For example, in the Italian footwear sector, many small companies collaborate with luxury brands, a fast-growing sector, and SMEs have to meet the growing needs of big companies that demand their products to be more and more high-tech and produced faster, requiring resources and production volumes that a single company could hardly attain.

Against this backdrop, it is recommended that small Italian manufacturers aggregate more to acquire more technological machinery that they could not afford to buy individually, although this process will collide with entrepreneurial pride, i.e. the desire to keep their corporate identity and brand intact. In the short term, SMEs will be at a crossroads, either to aggregate and remain competitive or to remain alone but risk not surviving. As markets are increasingly challenging, and some markets have been aggravated by the war in Ukraine, aggregation and collaboration is the

only solution for some TCLF companies, even if it is not easy because it clashes with the pride and identity of SMEs, which care about their brand and products. One solution could be for SMEs to aggregate and, without losing their identity, create a single brand, for example, by creating a holding company, and perhaps each SME could specialise in something. For example, in the textile sector, companies could specialise by type of fabric or by production phase in the same process, while in the clothing and footwear sector, there could be specialisations for those who produce clothes or shoes for women or for men, etc. In this way, there is more flexibility to be in line with the needs of the moment, have a more solid production structure and eliminate the risk of being locked into an outdated model of approach to change.

The topic of clustering is also important for policymakers, as they should propose incentives for SMEs that do not have research departments or centres to innovate, so that they can join and collaborate with trade associations. Calls can be created for trade associations to group SMEs or finance experts who can support SMEs in new technologies and advanced production systems. As Italian SMEs rely on external corporate resources to support R&D activities, they usually look for external funding and collaborate with other organisations to obtain high-level knowledge. Capital restrictions are severe for SME R&D activities due to high uncertainty and information asymmetry. Therefore, clusters or new forms of collaboration could be the driving force in this scenario and embrace technological development. However, policymakers should help companies in this *Brave New World* context address the urgent need for SMEs in the TCLF sector to break down financial barriers by accessing alternative financing solutions (reducing dependence on banks and diversifying their access to finance) and incentivise companies to invest in technology and innovation with tax breaks and industrial reconversion incentives. Not only that, since companies, especially smaller ones, are often unaware that there are calls for resources to make investments and develop internal training projects, information campaigns and greater collaboration with VET are recommended. In addition, there must be more support from political forces to find ways of aggregating companies, which, with the increase in the level of technology and the related investment required in innovative machinery, becomes crucial, especially for SMEs that do not have the necessary resources.

As mentioned, the *Brave New World* scenario presents the greatest change in terms of both technologies and business models to be adopted. Therefore, it is very important to grow management and digital skills in companies, and it is essential to upgrade existing skills or provide new skills (internally) to align with external requirements and technological changes. With this perspective, the backbone of the TCLF industry, the SMEs, should be strengthened: micro-, small- and medium-sized companies are suffering from severe limitations in internal resources, such as capital (financing), human resources and advanced knowledge. SMEs often lack sufficient knowledge and human resources to acquire external knowledge, which is essential for R&D and innovation in general. This requires investment in the growth of management and digital skills and a push for inter-company clusters.

In this direction, the necessary condition is to make training more attractive to young people and to facilitate generational change, and this is a crucial point, given that the training of the new workforce is increasingly complex, as it is affected by the problem of misalignment between the

needs of SMEs and education. First, it is necessary to work on the school system, training teachers on digitisation, innovation and new materials and involving companies, not only at the level of the individual school but also at the network level. It is necessary to support schools, which often lack the tools of companies, so synergy must be achieved with universities, research centres, community collaborations and business associations to connect schools to the new processes in this high-tech scenario. Companies should be more involved, not only with internships but also with company visits to show their processes and machinery. In other European countries, training and the approach to innovation start from the bottom up: in fact, middle and high school students already enter the world of business through guided tours, and this also helps to orient young people to what they want to do in the future and what job to choose. In Italy, this school-business binomial is very weak, and there is a tendency to consider the school world as disconnected from the business world. A solution could be to set up a matching platform that would be able to include analyses of the demands of the TCLF sector and identify priorities from the point of view of labour supply: this tool would offer an opportunity to adapt quickly to the real and changing needs of the market, but it would also help people, especially young people, to understand what skills are needed to enter the TCLF industries.

Three problems arise in the *Brave New World* that need to be resolved. From an education point of view, it would be necessary to increase collaboration between the academic world and HEI and VET, but in Italy, not only do the institutes know little about each other (even in the same locality), but above all, there is little collaboration between universities and technical institutes. In this context, a greater willingness to collaborate is recommended, especially regarding courses of study, which could enhance the system of skills acquired by students who will then enter the fashion supply chain. New curricula could be developed, and existing curricula could be adapted to new learning methodologies involving companies. It is crucial to develop new curricula, and many schools in Italy are already experiencing this scenario, as they want to introduce elements of digitisation and sustainability issues, with the intention of changing their curricula. Teachers should engage with companies to understand and implement these ongoing transformation processes. Not only is there a problem of curricula, but it is also recommended that there should be greater unity in the Italian education system, more updating courses for school staff and more provision of collaborations with companies to increase laboratory activities and better train students. In this direction, there would need to be certain instrumental equipment, always up-to-date, that schools cannot have because these are expensive, so it is essential to build relationships with training centres, research institutes, universities and, above all, companies. Furthermore, on the one hand, ITS (Higher Technical Institute) and vocational training should be strengthened, considering that they are flexible training modules. On the other hand, vocationalisation modules should be provided within HEIs to give a professional and highly innovative direction to courses whose adaptation to the context would require a rather long time.

Another problem highlighted is at the level of policymakers. Nowadays, we talk about green and Industry 4.0, but professional profiles are not so different from 10 years ago. It would be appropriate to introduce more specialised figures in the repertory of occupations that include more modern knowledge so as to guide VETs and schools towards the training of profiles that can satisfy companies' real needs. It is also true that in the Italian TCLF industries, mainly SMEs operate,

and it is very difficult to introduce an innovative profile within them, so it would be more convenient to upskill and reskill the people already working in that company. SMEs in this scenario might have more difficulties than large companies, as these processes require more structured planning.

A third problem relates to the manual skills and experience of certain activities, such as in the footwear and clothing sector. Innovations in 'Made in Italy' are relatively important in the luxury goods market, because clothes and shoes have to be made with people's 'hands and eyes', i.e. they require a high degree of manual craftsmanship and creativity, because they are products that have to guarantee high quality, and some parts have to be made by hand. Technology must be strongly assisted by humans and their essential experience. In some sectors, the concern in this scenario will not be that we do not have the technology and digital and management skills to produce clothes and shoes but that we lack the people to make these products.

Especially for Italian SMEs, which constitute about 90 per cent of Italian TCLF companies, which do not exist on large production volumes and large numbers, the standardisation achieved with technologies goes against 'Made in Italy', which is composed of workers with a lot of experience. It is clear that in this scenario, even the most experienced workers will have to update, because they cannot remain indifferent to new technologies, so the real challenge for TCLF companies will be to balance the experience and high quality of 'Made in Italy' with the adoption of new technologies.

In this scenario, it will also be very important to safeguard the skills and knowledge outside the range of specialisation, particularly craftsmanship and the heritage constituted by tradition, maintaining the traditional study paths and knowledge that characterise the Italian fashion supply chain in order not to disperse them. Even in this *Brave New World* scenario, this has to be done in a more 'silent' way, because TCLF industries should focus more on R&D to grow and not be perceived as traditional and with unattractive career opportunities, in order to modernise the sector and make it more attractive to young people.

Therefore, regional campaigns should be developed in traditional and digital media, supported by the government, to promote TCLF industries, new technologies, career opportunities, best practices, the best companies, the best fashion schools and best industrial research centres in order to improve public opinion and facilitate the new workforce influx. This can only be achieved if education and business representatives manage to strengthen relations with policymakers.

A BRAVE NEW WORLD

- EU PERSPECTIVE

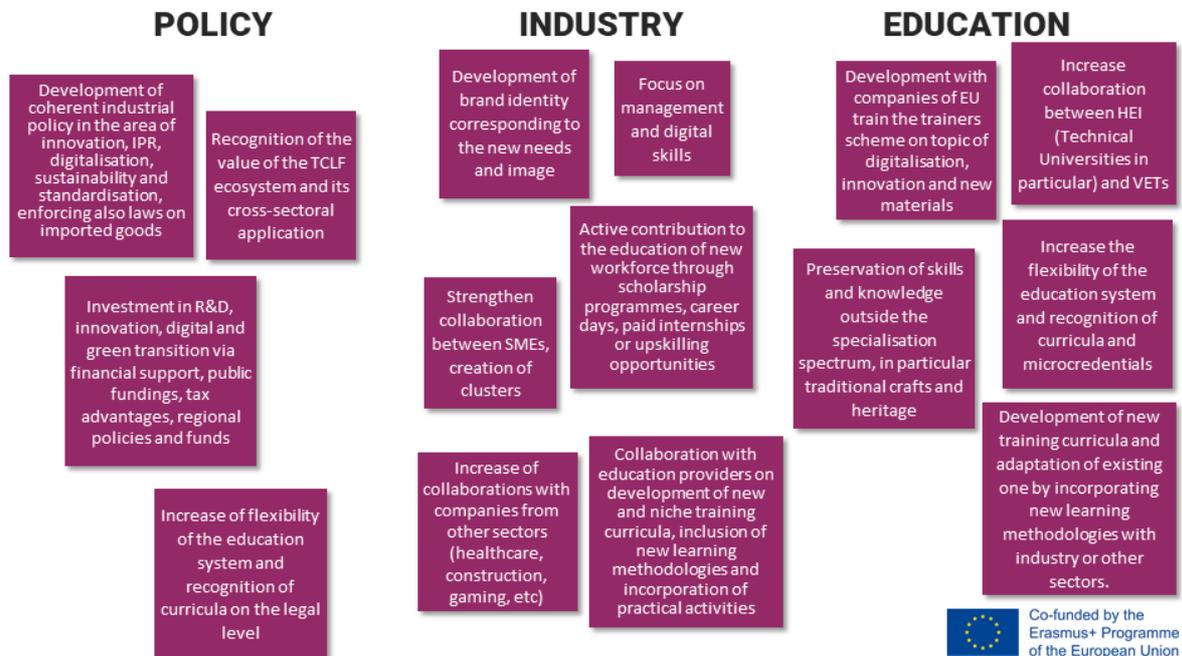


FIGURE 6.1

Source: Skills4Smart TCLF Industries 2030

6.3.2. *Selective Leadership*

In this scenario, the TCLF industries by 2030 will maintain or increase their international market position in selected sub-sectors, leaving behind less profitable or lower value-added production. Production, as well as R&D, will mainly focus on the most profitable branches, either with high value-added goods or with the incorporation of advanced technologies and solutions. In this context, where strategy is strongly influenced by financial performance, the focus is mainly on mid- and high-level skills, which will force employees to participate in upgrading and retraining initiatives to keep their jobs. Therefore, companies will have to invest in a highly qualified workforce, especially in green and digital skills.

Selective Leadership presents a huge challenge for TCLF SMEs to hold on to their market share and/or strengthen their market position. To achieve this goal, it is crucial that there is a strong collaboration between companies and education providers with government support to reduce the gap between demand and supply of highly specialised skills. How? On the one hand, TCLF companies should clearly communicate their needs and provide support in the design of educational courses; on the other hand, education providers should consider adapting existing

curricula or developing new curricula and learning methodologies, adopting the right mix of classes and workshop activities. It will certainly be important to increase the collaboration between HEIs (technical universities in particular) and VET, e.g. schools could provide a set of technical skills, while VET could organise postgraduate study courses (such as IFTS) to give students more transversal and managerial skills. A specific mention should be made of the ITSs, which are key players in the reforms included in the National Recovery and Resilience Plan (PNRR), in which they will be strengthened through the enhancement of the organisational and didactic model and integrated with the vocational degree system, and they will support measures to develop and strengthen STEM, digital and innovation skills. For these reasons, greater complementarity between educational and postgraduate providers is recommended, because it is difficult for technical schools to implement skills outside the specialisation fields in their curricula, as they are already very intensive and full of technical knowledge. In addition, it would be useful to create partnerships with other educational providers at the EU level that have the same specialisation with exchanges of students (e.g. Erasmus+) and trainers, especially by sending young people to selected clusters (where there are production clusters of excellence) where they can acquire specific skills and experience the atmosphere of industrial clusters. In this direction, an important role can be played by policymakers who can publish more ad hoc calls for proposals to encourage exchanges with other international schools.

In this scenario, it is also important to facilitate access to the international market. Generally, SMEs with a high degree of craftsmanship create products with high added value, but national borders still represent a significant obstacle to the expansion of their activities. Therefore, the international position of SMEs should be developed or consolidated by facilitating their access to e-commerce platforms and systems. *Selective Leadership* induces companies to work with profitable productions and discard the less profitable productions. However, many Italian SMEs collaborate a lot with the big luxury brands, especially those belonging to the clothing and footwear sectors, requiring a more specialised and skilled workforce to offer the most complete level of service possible to these large companies. This means that it is right to invest in green and digital skills, but companies should invest above all in people, with programmes for the continuous updating of technical skills and professional growth, because this is the factor that will reward Italian SMEs in the long term. The leading companies must be able to rely on highly specialised people with a high level of skills. In this direction, policymakers and VET should play an important role. The first should enable companies to train their employees (e.g. with continuous training programmes) through calls for expressions of interest or tenders. The second should collaborate with companies on new, highly specialised niche curricula to develop managerial skills and capacities that can improve the supply chain, planning, management and logistics processes and market access to raise the level of qualifications of the workforce and the quality level of the products and services they offer.

This scenario would require strengthening of SMEs in the TCLF sector, which have fewer internal resources, such as capital (financing), human resources and advanced knowledge. SMEs often lack sufficient knowledge and human resources to incorporate external knowledge, which is essential for R&D and innovation in general. Moreover, SMEs in the Italian TCLF industries often collaborate with big international brands, which require greater development of skills and production capabilities to satisfy their needs. The chimera for all companies is to work with profitable products

and discard less profitable products, but in some sectors, such as those belonging to the luxury sector, strong specialisation leads companies to a small market, which is why there are fewer and fewer companies offering a single product. Nowadays, companies have to cluster in order to offer big brands the best possible product and service. An effective cluster could be the ideal solution, especially since large international companies do not require Italian SMEs to offer their products, but only if they are able to produce the products and volumes they want and if they have the production structure capable of guaranteeing a certain level of product and service quality. Therefore, in this scenario, SMEs in the TCLF industries should cooperate a lot. One way could be to set up large hubs, demanding from policymakers measures or action plans to improve production activities and push for product and process innovation in the TCLF industries, without being overwhelmed by specific external choices. Together, companies could invest more in technological developments, not only in processes, but especially in products. In the textile-clothing sector, many companies, relying on their high level of know-how, could focus on innovative products because they would be more difficult to imitate and could guarantee higher revenue, such as special technical fabrics that are able to increase the comfort of garments in a sustainable manner or higher-performance recycled fabrics made with greener finishing techniques. Many companies will move towards hyperspecialisation, creating revolutionary fibres that allow garments to adapt considerably to different body shapes and are capable of following the body's movements like a second skin, which would reduce the problem of stock returns, as they would reduce the size of stocks and the risk of some clothes no longer fitting people after some time. Alternatively, textile companies could produce adaptable and sustainable hi-tech yarns, with which they could make seamless and ladderproof garments suitable for shapewear at a time of strong demand for more inclusive sizes.

A second way could be to observe the concentration of large groups of SMEs that together could become leaders in a highly specialised branch and reshape themselves with an important cohesive force, better managing corporate communication and gaining greater access to technology (perhaps initiating and enhancing new collaborations with technology providers) to make production processes more efficient. This last consideration would lead to two risks. The first is that this model could be influenced by purely financial elements, and this scenario would run the risk of greater uniformity, making the product banal and less distinctive and pushing the more artisanal SMEs into an extremely small market. The second risk is the difficulty of discarding unprofitable branches, resulting in the loss of know-how that is difficult to get back in the future. In many branches of textiles and leather goods, trends regarding particular materials are cyclical, and it is very risky to lose a certain type of know-how. For example, lace has not been considered for many years, whereas today it is living a second life.

Therefore, the major objective of this scenario is to facilitate the understanding and dimension of the specialisation of leadership companies in certain sectors, which can become excellent production companies in which young people can aspire to work. This could be achieved by communicating best practices and new career opportunities in these companies, in synergy with trade associations, the education system and policymakers.

SELECTED LEADERSHIP

- EU PERSPECTIVE

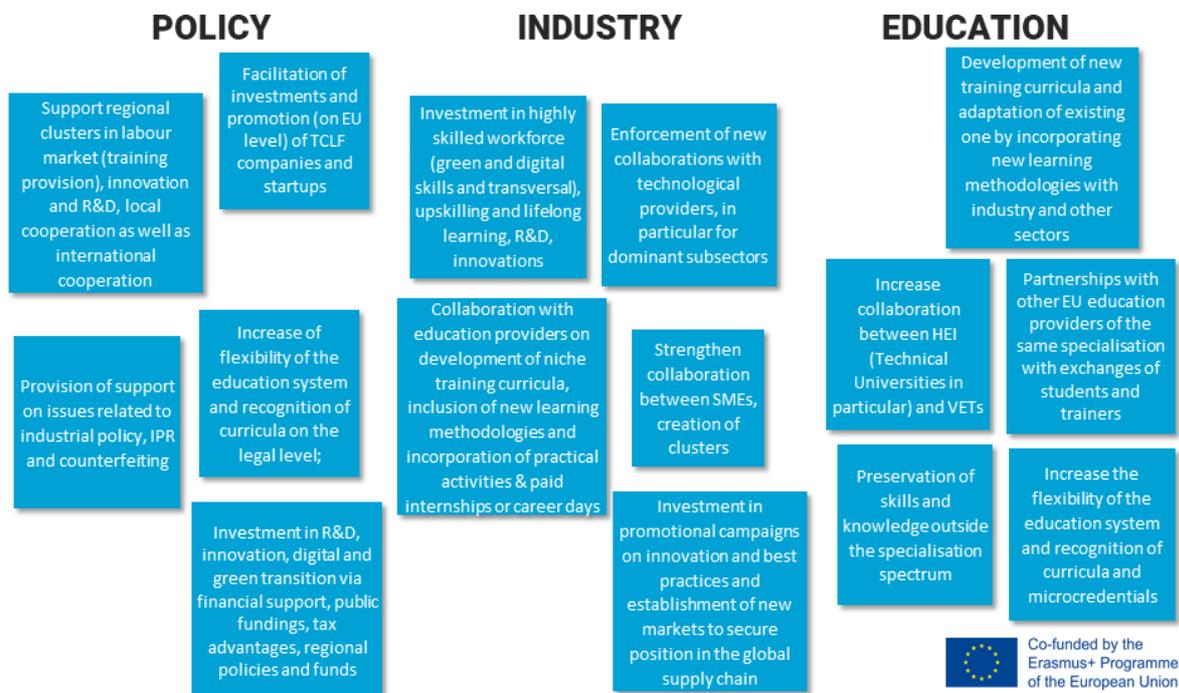


FIGURE 6.2

Source: Skills4Smart TCLF Industries 2030

6.3.3. *Renaissance of the Craft*

As noted in the previous chapter, this scenario is a combination of tradition and technological development on the production and consumption sides, which changes the negative perception of craft enterprises and backward industries to create a more attractive image through a range of products with higher added value. In this context, more conscious and sustainable consumption behaviour is widespread, giving rise to local models of production, consumption and recycling, based on both traditional and technological production models.

The *Renaissance of the Craft* will only be possible through the maintenance of skills and knowledge within TCLF companies. For this reason, training, mentoring and apprenticeship programmes must be strengthened in order not to lose specific characteristics of the Italian TCLF industries, in particular Italian craftsmanship know-how in the sense of knowing how to do things well and beautifully. All this must be protected, because it constitutes the competitive advantage of Italian

TCLF production, and a national force capable of supporting companies to train competent and highly specialised workers is needed to protect the Italian artisan character.

In this scenario, there is a big problem of maintaining craft skills and adapting them to technological developments and green trends. Therefore, it is necessary to invest a lot in training, considering that there is a big problem of generational change. This will not be easy because, on the one hand, young Italians are less and less attracted to the world of production, and companies often hire foreigners, particularly in footwear and textiles, which could lead to limitations as manual work becomes more and more cognitive (not just operational), so operations with a higher added value could find strong limits: products have a high identity content, linked to the territory that foreigners are hardly able to transfer into the product.

Moreover, it is not easy to do specific jobs and guarantee a good level of the final product, as it takes several years of experience to reach certain levels. In the future, although the scenario could see Italy advantaged for the strong artistic-manufacturing component of its products, the low attractiveness of manual jobs for young people could generate a significant loss of know-how, which should therefore be protected with specific targeted training programmes, financing technical education in order not to lose the more traditional aspects of Italian craftsmanship. This difficulty is of primary importance, because it is very difficult to train specialised workers in the four TCLF sectors. In the future, there could be a lack of warpers, assemblers in the footwear sector, textile spinners and weavers, quality control technicians for tanning and finished garments and prototype makers. It takes several years to train these employees, and in Italy there are fewer and fewer educational institutions capable of training them.

Therefore, for large companies that have greater contractual power, it is recommended that regional funding be increased through greater collaboration between the categories and public authorities to avoid the danger that traditional artisanal skills may be dispersed in the medium to long term because there will no longer be sufficient courses. There could be four solutions to this problem.

The first is to aim for greater orientation right from middle school, spreading a greater culture of product quality and reading skills.

The second is aimed at larger companies, which could provide training in-house by setting up corporate academies, i.e. in-company training organisations with the aim of presenting key knowledge, enhancing employees' professional growth paths and reducing the risks arising from generational changes in the workforce or sudden changes in the workforce. This would be optimal, but there is not always sufficient regional support or subsidies, and it takes many years and expert coaching to train specialised personnel. For example, in the footwear industry, high-quality shoes have to be made manually by experienced people, who are difficult to train because it takes several years of learning. Therefore, it is also difficult to find the right people to train. We would need more support from the government to create ad hoc education courses and make them more professional, especially by introducing mentoring activities for new generations.

The third solution involves the world of education, which involves setting up a strategy for training teachers on sustainability issues and sharing best practices. In technical education, the transmission and continuity of skills belonging to individual teachers is crucial, because they are specific, complex and difficult to schematise, as they belong to a very individual way of doing things. For example, if teachers with specific skills retire, it is not easy to replace them, because they have inimitable practical skills. Therefore, this transition must be well organised, and forms of shadowing the most experienced teachers are necessary in order not to lose that heritage of knowledge. Italy is currently characterised by the strong presence of precariousness amongst school teachers, which complicates this transition, and the personnel recruitment system should be reviewed. In addition, the codification of craft knowledge is important, although codification in itself does not guarantee its reproduction, and even the transmission of some skills is not easy, which is why it is essential to collect and codify all the traditional skills to facilitate the transfer of this heritage of knowledge belonging to individual retiring teachers to younger ones.

The fourth solution, supported by policymaker initiatives, could be to set up laboratories and workshops to teach young people manual activities, which could start even before apprenticeship. A lot of work should be done on the mindset in schools, which have high-level fashion curricula (managers, marketing experts, etc.) but few practical ones. Curricula are recommended that prepare more specialised operational figures, similar to the old 'vocational training schools', with laboratories and tools donated by the companies of the TCLF industries to enable young people to learn more operational jobs, such as tailor, leatherworker and weaver, jobs that could disappear in the future. It would also be useful to issue more calls for tenders to enhance mentorship and apprenticeship programmes, also outside the country of origin and at different levels of the supply chain, to enrich learners' skills in the field in different contexts. This must be supported by the implementation of promotional campaigns that can raise the awareness of the new generations on the importance of the heritage of Italian craftsmanship skills, renewing the corporate image in the Italian TCLF sector, which is often characterised as unattractive, enhancing the possibility of learning a trade and showing the excellent career opportunities in these companies.

Therefore, policymakers should collaborate more with companies and training institutions to ensure that this know-how is not dispersed but is also updated with the skills and competences required by the market and the technologies and new trends regarding sustainability, focusing on an orientation based on short manual experiences: the aim is to create a craftsman 4.0.

RENAISSANCE OF THE CRAFT

- EU PERSPECTIVE

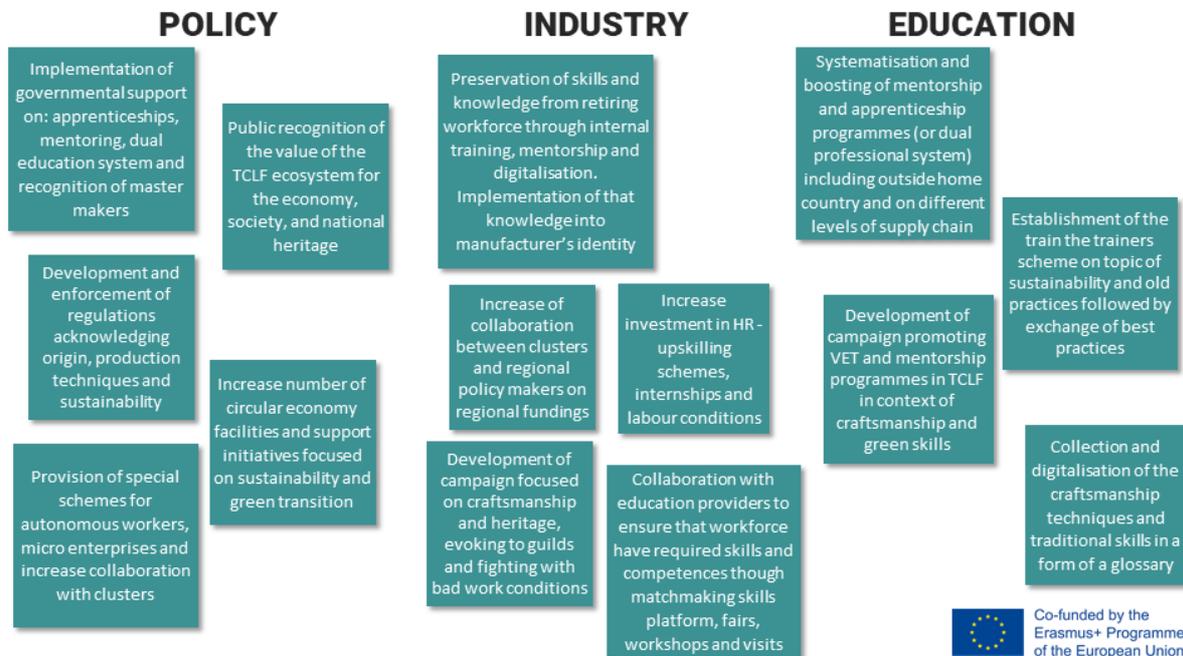


FIGURE 6.3

Source: Skills4Smart TCLF Industries 2030

6.3.4. *Walled Gardens*

Walled Gardens represent a stagnation scenario in which existing TCLF production clusters, employment and related jobs are maintained with little change, based on a policy and regulatory framework, including higher international trade barriers, that reduces competitive pressures and the need for rapid technological change. The location of production will not be based on the level of development of industry and know-how but on access to cheaper labour, while the demand will be for low- to medium-skilled labour capable of performing repetitive tasks, either manually or with the use of machines.

The education system will play an important role in this scenario. It will have to provide more flexibility in curricula and more specialised technical training in alignment with the local market's real needs. Since the real task of schools has always been to train people and introduce them to the labour market, in this scenario, they will even more have to provide them with the right skills in a way that they are as ready as possible for the activities required by companies, which will need a specialised workforce. On the one hand, education providers will have to preserve traditional skills and enhance the 'Made In Italy' label; on the other hand, they will have to modernise their

educational methodologies to focus on practical and experiential activities in order to adapt to the times and make learning processes more immediate.

From the policymakers' point of view, in this closed scenario in which institutions and regulations that are increasingly pushing for green transition play an important role, renewable energy solutions need to be incentivised to reduce the ever-increasing costs in companies' profit and loss accounts. Measures aimed at reducing energy dependency should be expanded, such as subsidies for the production and demand of energy from renewable sources, the construction of new regasifiers and incentives for energy-saving investments in machinery. After the Covid-19 pandemic and the conflict in Ukraine, many companies are in great difficulty due to rising energy costs; for example, for 76% of companies in the textile industry, the cost of energy is high in relation to production and many are experiencing the same increases as the big brands. For this reason, an expansion of public investment in renewable energy would provide a solution to the economic difficulties of the TCLF industries, but many actions to mitigate the effects of the current energy shock cannot be financed from regional and national resources, so policymakers should work towards a common EU response.

In the *Walled Gardens*, political forces should also incentivise recycling and the reuse of waste in other things and focus strongly on the circular economy. In part, this would be an implementation of the strategy set out by the EC, which aims for more sustainable and fairer production by 2030, but the government should activate campaigns not only to raise awareness amongst producers but also consumers. The TCLF industries are producing too much: between 2000 and 2015, global textile production almost doubled, and textile consumption is on average the fourth highest negative environmental and climate impact factor (as well as the third highest for water use and land use), while that of footwear is estimated to increase by 63% by 2030, producing 102 million tonnes of shoes, of which 5.8 million tonnes (11 kilos per person) will be discarded in Europe alone. In the clothing sector in Italy, consumers use only 20% of the clothes in their wardrobes. In this scenario, it becomes crucial not only to act on consumers' mindsets but also to extend the life of products. For this reason, policymakers in all four TCLF sectors should set rules for production processes to avoid the use of harmful substances, while respecting social rights, but also ensure that products can be recyclable and durable; they should also set requirements for environmentally friendly design that aims at both extending the life of products and facilitating their recycling at the end of life.

In this closed scenario, policymakers should also improve the existing problem facing 'Made in Italy': counterfeiting. Italian craftsmanship is a fundamental part of 'Made in Italy' and is synonymous with a very high standard in terms of quality, creativity and innovation; therefore, it should be considered as cultural heritage as well as a fundamental economic and production resource for Italy. One solution could be to create memorandums of agreement to protect TCLF industries and strengthen synergy in the dissemination of the culture of legality and the risks associated with counterfeit products, as well as to spread the widest knowledge of IPR protection tools amongst the sector's operators. Sustainable growth, both local and national, is achieved through a transparent and secure market that rewards the quality and production efficiency of Italian TCLF industries.

Walled Gardens will lead to an increase in production efficiency due to greater synergy between companies in the various supply chains, including industrial symbiosis, but also to a process that will tend to 'steal' production specialists from other companies because there will be fewer and fewer of them. Therefore, it will be difficult to support labour mobility between companies. Moreover, after the pandemic and the war situation in Ukraine, companies will have to better rationalise their investments in this scenario to offer a high-quality level of production and services to satisfy the needs of the big brands with which Italian SMEs collaborate. In some cases, companies could implement reshoring processes, especially in the clothing and footwear sectors, which would lead to reformulating training paths and changing current recruitment.

In addition, the creation of consortia between Italian manufacturers to promote product recycling and manage TCLF waste is recommended. These consortia could constitute voluntary extended producer responsibility (EPR) systems that will soon be introduced in Italy. Not only that, but consortia companies could adopt best practices on transparency and waste management according to ethical and legal criteria at each stage of their production chain, improving in terms of quality and quantity the separate collection of clothing, footwear and leather goods waste to improve the sustainability of the TCLF sector and their supply chains.

Assuming that this scenario is hardly possible for the Italian TCLF sector, companies, especially SMEs, cannot remain in their walled gardens; otherwise, they would die in the long term. In this context, companies may well strengthen their position in the supply chain, but if they stagnate and do not evolve, they are destined to disappear. Corporate immobility decrees the death of the company itself. To survive in this scenario, companies, if they do not evolve, should know how to choose the right company policies, i.e. know how to decree certain market choices capable of adopting a correct company strategy, keep up with the times even with the technologies and skills required by the market. Even in this case, specialised employees must be trained so that they do not disappear.

WALLED GARDENS

- EU PERSPECTIVE

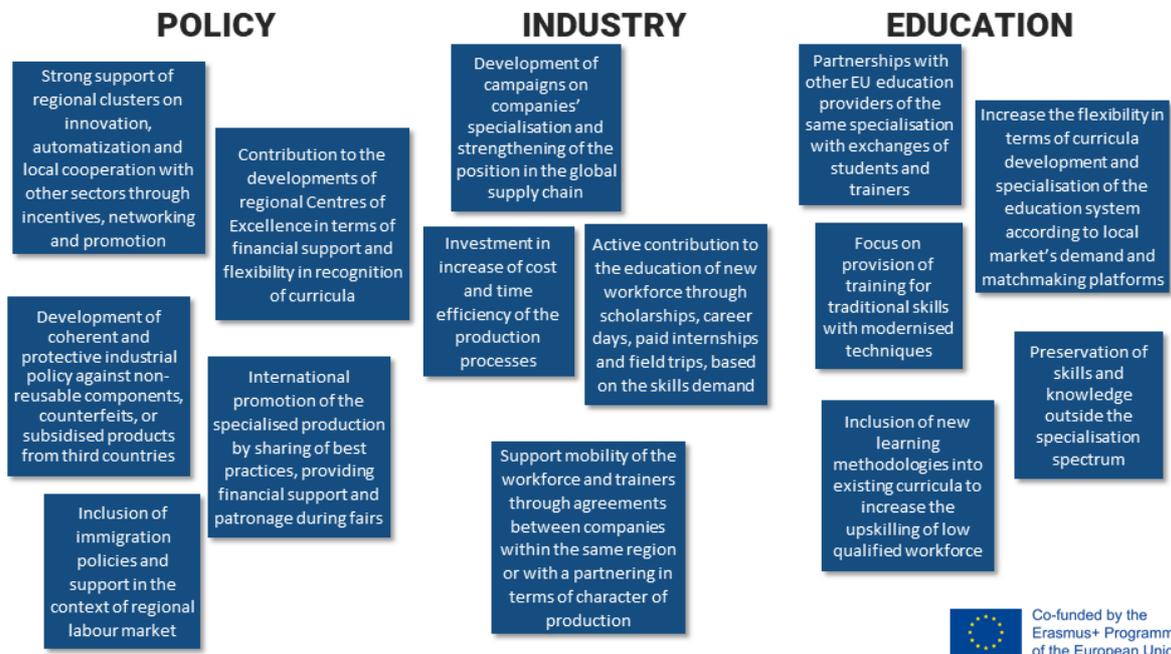


FIGURE 6.4

Source: Skills4Smart TCLF Industries 2030

6.3.5. Industrial Sunset

As noted, this is the most pessimistic scenario, because it embodies a kind of 'race to the bottom', in which most TCLF production migrates from Europe to countries with lower labour, material and environmental costs. The consumer purchasing process will be based mainly on the lowest price, which will have a negative impact on the number of jobs and cause the loss of know-how.

At the educational level, if this scenario occurred in Italy, in the short term schools would continue to train students with the same curricula, because teachers would not have the time to update their preparation, which should be functional to the real needs of companies, which are more interested in digital skills related to logistics, marketing, communication, branding, sustainability, design processes and quality control. At the same time, it should be guaranteed that craft and traditional skills and knowledge that could be useful for future generations are preserved. It is recommended to maintain this heritage of skills that would be dispersed and then transferred back to other situations or to future generations, perhaps when a relevant reshoring process is initiated.

The real challenge in this scenario for education institutions is to continue to be seen as credible and capable of providing high-level and functional training to Italian TCLF companies.

For this economic scenario without a strong production capability, it is crucial to move from production to supply chain management, logistics or brand identity revision, which will be mainly based on the origin factor. It is very important to make it clear that a piece of clothing or a shoe was designed in Europe, but 'Made in Italy' is even more important because it is a distinctive feature that is difficult to clone and imitate. Production can also migrate to non-European countries, but it is very difficult to transfer Italian good taste, adaptability and design. Therefore, it is crucial to protect and enhance the 'Made in Italy' brand as much as possible, supported by synergies of stakeholders who should join forces to promote it.

In the *Industrial Sunset*, companies belonging to the TCLF sector should actively contribute to the training of the new workforce, to set up programmes to train highly specialised workers with managerial skills who know how to reduce business costs and make companies better compete in a market where consumer purchasing decisions are made on the basis of price. In other cases, companies may make investments in other countries or relocate parts of the supply chain, especially if they have large volumes of production, training people in countries with lower labour costs. However, in some industries, such as luxury, specific skills and know-how are needed. Therefore, it is not easy to delocalise certain production activities, because it is very difficult for foreign workers to make products well in a few years, as they would not be able to give them the value and identity content linked to the territory of origin, which is difficult to transfer in a short time. Although this scenario presents a pessimistic future for the TCLF industries, especially for manufacturers and those who are traditionally oriented, there are still opportunities in terms of career opportunities, growth of brands and new specialisation and reskilling areas. In this scenario, the industry will continue to aspire to have a more positive and attractive corporate image. To maintain its activities, it could also turn to other sectors and create new opportunities to renew its image, especially to younger people.

In any case, companies should be supported with the help of policymakers, who should work on labour costs to make labour in Italy competitive and discourage relocation by introducing subsidies, incentives, tax breaks and, above all, more industrial policy measures in the TCLF industries. A joint effort with the other two types of stakeholders is recommended to adapt the provision of training and education to the current needs presented in this scenario. Policymakers should involve companies that make their knowledge and skills and information about their needs available, involve educational providers ready to adapt their offerings and ensure that the skills gap is as small as possible and involve policymakers ready to support changes in education, either in terms of curriculum recognition or micro-credentials or by providing financial support to improve learning methodologies and the overall experience. Another activity that could be implemented, including through trade associations, is the creation of a group of experts that would be available to collaborate with companies, still too many of which are anchored in traditional skills, to perform real business check-ups to take a snapshot of the state of health of companies and to support them in a process of reconversion and redevelopment, especially in terms of innovation, sustainability, managerial and digital skills (e-commerce, branding, etc.).

Another recommended action for policymakers is to provide incentives for TCLF industries to invest in certain territories to create centres of excellence in which the inhabitants of those territorial areas, especially young people, aspire to work. This would require strong investment on the part of companies in certain areas, which must be supported by funding and tax breaks, succeeding in return in obtaining a higher level of production in terms of quality and involvement on the part of their employees born and raised in that territory, who have every intention of growing the company in their territorial area.

INDUSTRIAL SUNSET

- EU PERSPECTIVE

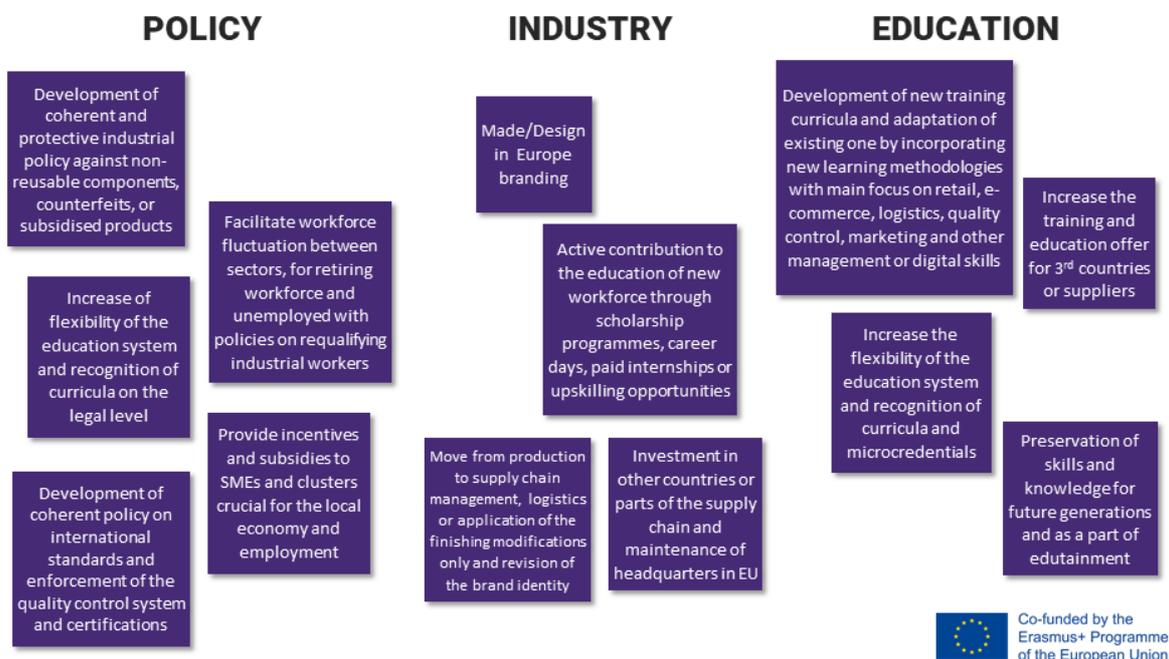


FIGURE 6.5

Source: Skills4Smart TCLF Industries 2030

6.4. Conclusions for recommendations

The five scenarios present five situations where TCLF industries could be by 2030 – some more likely and others more pessimistic or to be avoided. Beyond their actual feasibility, which is difficult to predict, common elements emerge from the analysis conducted through the interviews and focus groups held with the three types of stakeholders: policymakers, industries and education. They provided valuable recommendations to consider for strategies regarding TCLF industries.

What emerges most in this analysis is the desire to invest in training, which is crucial especially for the first three scenarios, although it touches on different aspects: for example, in *Brave New World* it concerns technological and sustainable aspects more, in *Selective Leadership* it relates to more specialised outgoing profiles, and in *Renaissance of Craft* it concerns craft skills. In addition, education will have to solve the problem of generational turnover, both of employees in companies but also school teachers retiring. This requires a systematic codification of the knowledge that distinguishes 'Made in Italy', from craft skills to those related to design; this codification could also represent best practice at the European level.

Courses should be more practice-based and implement laboratory activities to thoroughly learn a job and satisfy the real needs of TCLF companies. The courses should not be run only to train managerial figures. On the one hand, they should also train lower-middle-level professions (e.g. weaver, assembler, hemming machine, spinner, etc.) and, on the other hand, more specialised figures regarding digitisation and sustainability, the implementation of which would require revision of the general repertory of recognised occupations. Training is also recommended internally within companies, with upskilling programmes for their employees, with courses built ad hoc around specific company needs, and therefore more collaboration with education providers is recommended.

At this historical moment, marked by the post-pandemic situation and the war in Ukraine, the main antidote to the crisis is the excellence of Italian manufacturing. For this reason, the three stakeholders recommend investing in high quality, sustainability that appeals especially to young people, creativity and craftsmanship typical of Italian manufacturers, but above all, to consolidate even more the relationship between the TCLF companies and the institutions that play a crucial role in all five scenarios.

Another strong theme that emerged was that companies, especially smaller ones, should unite more and create synergies in order to be stronger and more skilled, thus gaining more resources to invest in innovation and increase their competitiveness.

Moreover, institutions should support SMEs, which represent the true Italian manufacturing backbone, to enable them adapt to the major changes in progress. One solution could be to make experts available (SMEs would not have the economic resources to hire them), also through trade associations, to work with companies in certain innovative and highly specialised activities to improve the quality level of their production processes, especially in those companies that collaborate with important luxury brands. In addition, SMEs should be facilitated to participate in calls for tenders to obtain subsidies for investments in innovation and digitalisation, for the adoption of energy solutions, for complying with the principles of the circular economy (recycling, reuse and disposal of textile waste, etc.) and for giving them the opportunity to obtain tax breaks and incentives for industrial reconversion – all this without ever abandoning the know-how of the Italian TCLF industries, which is the real treasure to be guarded.

7. Conclusions

In the last decade, TCLF industries have greatly changed; the number of companies has decreased by about 10% since 2010, especially in the textile sector, as well as the share of the workforce, which is mainly concentrated in Northern Italy (about 49%) with more than one-third in Central Italy (35%). We have shown that more than half of the workers in Italy currently have a low level of qualifications (51%), which is much higher than the European average (30%), peaking in the leather and footwear industries (57%), while most TCLF manufacturing employment is composed of craftspeople and trade workers, technicians and associate professionals and plant and machine operators and assemblers (about 75%).

In Italy, the TCLF industry is not only important for the Italian economy, as it represents about 15% of total manufacturing, but also because in the global market it is well known for quality, design, creativity and high-end products thanks to the very high level of craftsmanship heritage, summarised by the label 'Made in Italy'. All these assets can be maintained over time only thanks to investments in the high technical and specialised skills of the workforce and also if companies are able to tackle the new challenges: digitalisation, sustainability and new trends in consumption and production. The Covid-19 pandemic has been accelerating the impact of certain challenges, such as digitalisation (particularly in the production and product processes), new business models, new consumer values and the digital learning transformation.

As we examined in Chapter 3, external factors influence the TCLF sector. In particular, seven drivers of change have been identified (*demographic change, environmental change, technological change, regulation & governance, economics & globalisation, values & identities and a new consumer*), incorporating other groups of sub-drivers, which impact production, consumption and the job model in the TCLF sector. In Italy, the most important drivers are environmental and consumer changes, followed by technological and value changes. In detail, the most impactful sub-drivers in the Italian TCLF industry are considered to be advanced production technologies, increased consumer demand for customising products, demand for luxury products, difficulty in attracting young people to low and medium job profiles, increased transparency within the production and supply chains (namely traceability), growing consumer awareness of social and environmental sustainability and the increased integration of production processes.

The research and data collected in the first three chapters revealed a new skills gap for the TCLF industry, mainly due to the emergence of sustainable issues but also due to the digital revolution and Industry 4.0, which have introduced new technologies in the production process.

According to the different impacts that each driver of change and its sub-drivers could have in the sector, five scenarios were developed (see Chapter 4). Although all the proposed scenarios are different, all have some common elements, which make the transition from one option to the other smoother.

Although there is not a unique scenario representing all the TCLF manufacturing districts, meaning that it is impossible to define a holistic strategy for the sector, some scenarios are considered more feasible for Italy, according to our survey.

The most realistic scenario is *Selective Leadership*, which predicts that, by 2030, companies in the TCLF sector will maintain or increase their position in the international market in selected and profitable sub-sectors, thanks to the high level of specialisation of activities and the strong networked organisation typical of Italian industrial districts, which allow skills and know-how to be preserved over time.

Other scenarios were considered possible by the interviewed stakeholders, particularly the *Renaissance of the Craft*, because it enhances the manufacturing and artisan character of Italian high-end products, and *Brave New World*, which emphasises the combination of tradition and innovation that, as explained in Chapter 5, represents the hardest challenge for Italian companies due to the high investment and skills gaps. As we have previously analysed, these three scenarios are interconnected and can coexist with some overlaps, as they share the common goal of investing in sustainability, quality and innovation, improving the organisational, managerial and, above all, production models.

Beyond the construction of these scenarios and their actual occurrence by 2030, common points emerge in the implementation of strategies and in the creation of recommendations for the Italian TCLF industry, which have emerged from surveys/focus groups with the main stakeholders (policymakers, education and industry), from sectoral studies and research and from the considerations contained in the *Pact for Skills for the EU TCLF Industries* launched by the EC. First of all, a stronger collaboration between the three stakeholders is essential. That means first joint design of educational and training processes and tools that include digital and green skills, without neglecting the preservation of traditional knowledge. 'Made in Italy' high-end products are endangered by the lack of a replacement generation due to the retirement of older workers. Therefore, more collaboration with education and training providers, HEIs, research centres and companies would be needed to design or update curricula to reply to the skills needs of the Italian TCLF industries. The consequence is an improvement in training the trainers, a higher flexibility of the education system, allowing greater participation of the companies in the teaching processes, and easy and accessible networking between TCLF VET and HEIs at the national and European levels that could help to develop the skills level of the entire system, facilitating the upskilling and reskilling processes.

Apprenticeships should be increased to introduce young people to the TCLF industry and facilitate the exchange of skills between new and experienced workers. Work-based and practical activities should be improved in the training methodologies thanks to access to new innovative laboratories.

In Italy, TCLF companies, especially SMEs, should cooperate more or strengthen their corporate structure (either through the establishment of hubs, clusters or partnerships, even with extraordinary mergers or incorporation) to be stronger and more specialised, invest in innovation and technological equipment and increase their competitiveness by accessing collective and shared competences. From this perspective, policymakers should promote cooperation at the regional level, strengthen industrial clusters and cross-sectoral collaborations and provide more support to Italian SMEs with tax breaks, as well as assist them in accessing European and national public funding. Support should be addressed to introducing new technology investments as well as to research and skills.

Together, the three types of stakeholders should monitor the demand and supply of skills and anticipate skills needs. A TCLF skills observatory could be set up, in close cooperation with national employment observatories and EU organisations, to provide the TCLF sector with best practice case studies and up-to-date analyses in terms of skills supply/demand, on the one hand to update companies and increase their competitiveness in the global market and, on the other hand, to provide the educational and training system with important inputs able to adapt existing curricula and develop new ones.

Finally, the last action should be to make TCLF companies more attractive to young people by emphasising career opportunities and communicating a new image. Marketing campaigns could be launched to promote TCLF industries, orientation opportunities for young students in educational institutions could be strengthened and mentorship programmes and internships outside Italy could be developed. In addition, integration of the companies with the territories could facilitate a positive perspective of the heritage values and the sector, allowing them to hire locally and create loyal relations.

In conclusion, the Italian TCLF industries are undergoing a great process of change, which, beyond the occurrence of one of the five scenarios presented above, will determine new skills needs and the emergence of new occupations in the coming years. Therefore, employment dynamics in the Italian TCLF industries will be affected by major transformations in job requirements, in which some occupations will be easily replaced by automation, while others will become more central to production processes and to the protection of the know-how that distinguishes 'Made in Italy'. In this context, in addition to the recommendations mentioned in the previous chapter, the constant synergy between policymakers, the education system and industry is and will be increasingly important for the competitiveness of the Italian TCLF sector.



Co-funded by the
Erasmus+ Programme
of the European Union

ERASMUS +

Sector Skills Alliances for implementing a new strategic approach to sectoral cooperation on skills (“Blueprint”)

Agreement n. 2017- 3536/001-001

(Project number - 591986-EPP-1-2017-1-BE-EPPKA2-SSA-B)

Project duration:

1st January 2018 – 31st December 2021

The European Commission support for the production of this publication does not constitute an endorsement of the contents which reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

PROJECT COORDINATOR:



Project contact person:

Iratxe Garcia-Bayona

iratxe.garcia@euratex.eu

PROJECT PARTNERS:

