



TEXTILE & CLOTHING KNOWLEDGE ALLIANCE



WP3

TEXTILES AND CLOTHING MANAGER EQF DEFINITION

EUROPEAN QUALIFICATIONS FRAMEWORK FOR TEXTILE AND CLOTHING MANAGERS

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1. Employment in the textile and clothing sector

The textile and clothing industry, one of the most important sectors of activity in Europe with more than 3 million persons employed, has been severely affected by the crisis and restructuring processes.

The globalisation of production and the competitiveness of emerging countries, the impact of the financial crisis, the lack of qualified staff, lifestyle changes and environmental issues pose huge challenges, especially to the textile and clothing industry.

The main problems affecting the sector and on which the TECLO project focuses are:

- 1) Consumer demand in the EU is likely to stagnate in all main segments: clothing, interior textiles and technical textiles, under the impact of higher unemployment, fiscal measures (e.g. VAT increase), limited credit and higher savings. Many economic projections point out that the demand in emerging markets like in China, India and Brazil is likely to grow. With the demand in Europe at best stable, growing exports to emerging markets is probably the best card for resistance or growth of the European textile and clothing industry. This priority has consistently been highlighted by the European Commission since the start of the Uruguay Round, both in opening up third markets (since the Marrakech agreement in 1994) and in fostering conditions for export. Member states have an important role in fostering export orientation of their industry, together with industry associations.

There is a potential of expansion for export especially capitalizing on the design and quality leadership in which Europe is still unmatched. However, only few companies are already in a position to grasp the potential of export markets (at this moment less than 5% of (large) firms do export outside the EU). Exports are hampered by trade barriers and difficult access to export credit or insurance. Export oriented strategies will require a combination of branding, marketing and distribution skills from managers, but also the capabilities to create conditions for exports, such as protection of IPR, access to export credit and to financial instruments enabling to industrialize and commercialise the fruits of innovation.

- 2) Innovation has been identified as a key area for resistance and growth for the textile and clothing sector. But innovation in these firms is not just about developing and applying new technologies, but also to successfully transfer new ideas and new business opportunities into market success and to re-organise business routines, external relations and marketing.

The concept of innovation must be extended to non-technological innovation, defined as the introduction of new organisational and marketing methods with a clear focus on external relations.

- 3) A focus on sustainability issues – both in terms of protecting the environment and global social responsibility – is characterising the textile and clothing sector. The consumer is more and more conscious of the environmental footprint and specific industrial markets are pulling innovation.

The emerging consensus is that when environmental management systems become a part of the management of any organization, only then an organization can survive in the long term. Managers will need to focus on energy efficiency and emission control, and quality control will concentrate on environmental standards. This will include logistics, which will have to improve energy efficiency rather than shortening delivery times. Production will be small-scale and specialised and will reuse traditional crafts. Thus, organisational strategies will require the mastering of environmental management methods and especially of the supply chain management with a focus on sustainability. Managers will need to improve their ability to reengineer processes according to Corporate Social Responsibility (CSR) and quality, as well as to settle the bases for providing confidence to customers that the products from the organization are manufactured with the aim of reducing the negative impact on the environment.

Looking at the ongoing changes it can be seen that the qualification requirements are changing throughout the sector, while the higher education provision is no more able to offer suitable solutions. Thus, active measures must be taken across the EU in order to provide the sector with know-how for a better anticipation and positive management of change, better adapting to the sector's future skills need.

2. Needs and benefits of implementing a framework of qualifications for textile and clothing managers

The proposed description of qualifications has been prepared within the TECLO project, which is targeted at textile and clothing managers.

The TECLO objectives are the modernisation of Europe's higher education systems in the field of textiles and clothing through a better anticipation of skill needs based on the development of sustainable partnerships between education and employment, which are highly needed.

The strategy is focusing on the following overall key objectives:

1. Enhanced innovation in higher education, business and in the broader textile and clothing environment, via (a) jointly developed new learning and teaching methods centred on learners and really problem-based, and (b) jointly developed solutions for challenges and problems affecting the sector. The focus is mainly on: export oriented management, non-

technological innovation, marketing innovation and reengineering of processes according to sustainability, CSR and quality.

2. Improved entrepreneurship mind-set and skills in the new generation of managers of the sector, via innovative approaches of transversal skills learning throughout a higher education programme developed in cooperation with enterprises. The focus is on entrepreneurship skills, namely: leadership, risk-taking and creativity.

Within the TECLO project, a desk and field research has been carried out, in order to detect:

- The main European sectoral reports of the new skills for the future textile and clothing sector.
- The main international sectoral observatories/associations, research centres and HEIs at different national levels and at European level monitoring sectoral skills development and anticipating skills needs.
- Trends and approaches for building effective and engaging MOOCs supporting a more active involvement in their education as well as decentralised, self-directed and efficient experiential learning more independently in time and space.
- The main evidence based advantages for SMEs to co-invest and participate in the activities of higher education institutions, research and business centres to address new skills requirements.
- The main problems faced by T&C SMEs in: (1) Implementing export oriented strategies; (2) Implementing non-technological and marketing innovation; (3) Reengineering processes according to sustainability, CSR and quality; (4) Pursuing change and efficiency through innovative entrepreneurship skills; as well as main support needed.
- The main barriers/incentives met by textile and clothing HEIs in introducing innovative MOOCs.
- The main evidence based advantages of teaching transversal skills, esp. entrepreneurship.

The field research included a survey carried out among SMEs and HEIs in the textile and clothing sector from all the partner countries.

Furthermore, an analysis of the National Qualifications Framework in the partners' countries, related to the training of textile and clothing managers has been performed.

As a result of these activities, a map of knowledge, skills and competencies desired among managers in the textile and clothing sector has been developed.

The developed qualifications are targeted to current and potential managers of textile and clothing SMEs and are to be applied within their formal training.

The qualifications framework contains both the traditional aspects, as well as an innovative approach to meet the diverse and rapidly changing needs of textile and clothing SMEs.

The implementation of the framework of qualifications for managers in textile and clothing SMEs will support entities operating in the field of formal education and vocational training in order to be able to compare the profile and content of their courses and to ensure their quality.

Finally, the EQF developed within the TECLO project has been validated via workshops in all partner countries in which relevant stakeholders have participated in the definition and validation of the EQF including, in accordance with national legislation and practice, higher and vocational education institutes, social partners, sectors and experts on the comparison and use of qualifications at the European level.

3. ECVET

ECVET – the European Credit System for Vocational Education and Training is a technical framework for the transfer, recognition and, where appropriate, accumulation of individuals' learning outcomes with a view to achieving a qualification.

It was developed to enable people to build on what they have learnt in the past when wishing to achieve a qualification. Competent authorities may decide to use ECVET to give people the opportunities to get recognition for learning outcomes they achieved abroad, but also for learning outcomes achieved through learning in another institution or system within the same country or those acquired by experience.

The ECVET tools and methodology comprise the description of qualifications in terms of units of learning outcomes with associated points, a transfer and accumulation process and complementary documents such as learning agreements, transcripts of records and ECVET users' guides.

Learning outcomes, the core element of ECVET technical specifications, are statements of what a learner knows, understands and is able to do on completion of a learning process. Learning outcomes are grouped to create units.

4. European Qualifications Framework

The EQF is a common European reference framework which links countries' qualifications systems together, acting as a translation device to make qualifications more readable and understandable across different countries and systems in Europe. It has two principal aims: to promote citizens' mobility between countries and to facilitate their lifelong learning.

Its eight common European reference levels are described in terms of learning outcomes: knowledge, skills and competences. This allows any national qualifications system, national qualifications framework (NQF) and qualifications framework in Europe to relate to the EQF levels. Learners, graduates, providers and employers can use these levels to understand and compare qualifications awarded in different countries and by different education and training systems.

Most European countries have decided to develop National Qualifications Frameworks reflecting and responding to the EQF. These developments are important to ensure that the European-level cooperation process is properly anchored at national level. The rapid development of NQFs since 2004 demonstrates the need for increased transparency and comparability of qualifications at all levels and shows that the basic principles underpinning the EQF are broadly shared.

This closer relationship between countries' qualifications systems has many beneficiaries:

- The EQF supports a greater mobility of learners and workers. It makes it easier for learners to describe their broad level of competence to recruiters in other countries. This also helps employers to interpret the qualifications of applicants and so support labour market mobility in Europe. The EQF complements and reinforces existing European mobility instruments such as Europass, Erasmus and ECTS.
- The EQF benefits individuals by increasing access to, and participation in, lifelong learning. By establishing a common reference point, the EQF indicates how learning outcomes may be combined from different settings, for example formal study or work, and from different countries, and can thus contribute to reducing the barriers between education and training providers, e.g. between higher education and vocational education and training, which may operate in isolation from each other.
- The EQF can support individuals with extensive experience from work or other fields of activity by facilitating the validation of non-formal and informal learning. The focus on learning outcomes makes it easier to assess whether learning outcomes acquired in these settings are equivalent in content and relevance to formal qualifications.
- The EQF supports individual users as well as providers of education and training by increasing the transparency of qualifications awarded outside the national systems, for example by sectors and multinational companies. The adoption of a common reference framework based on learning

outcomes facilitates the comparison and (potential) linking together of traditional qualifications awarded by national authorities and qualifications awarded by other stakeholders. The EQF helps sectors and individuals to take advantage of this growing internationalisation of qualifications.

5. Conclusion

One of the aims of the TECLO project is to create the contents of the European Qualifications Framework (EQF) of the new textile and clothing manager for efficient and innovative SMEs.

This EQF will serve as a reference tool to compare the qualification levels of the different qualification systems and to promote both lifelong learning and equal opportunities in the knowledge-based society, as well as the further integration of the European labour market, while respecting the rich diversity of national education systems.

None of the 8 participating countries in the project has a defined training for the profile of textile and clothing manager. The profile can be acquired by a bachelor degree or master degree, however not enough transversal competences are trained, so the student needs extra training (specific courses, MBA, etc.).

In that sense, the EQF developed within the TECLO project is based on the National Qualifications Frameworks in these 8 countries and relates different countries' national qualifications systems and frameworks together around a common European reference – eight reference levels and specifically based at Level 7.

Also inputs from the report on Needs and Constrains of the Textile and Clothing Sector, which included a survey amongst more than 250 SMEs and HEIs in 9 European countries and the results of the workshops with main stakeholders carried out in the 8 partner countries, have been considered to develop the EQF.

The contents of the EQF are mainly related to transversal skills, however it includes a learning area including general technical issues specific for the textile and clothing sector.

The European Qualifications Framework for the textile and clothing manager in terms of knowledge, skills and competences is based on learning outcomes as statements of what the learner knows, understands and is able to do after completion of the learning process. The knowledge, skills and competences referred to provide links to the next levels and could be enlarged and upgraded.

This EQF has to serve as a reference tool to compare the qualification levels of the national qualifications systems and to promote the validation of non-formal and informal learning in the knowledge-based society, as well as the further integration of the European labour market, while respecting the rich diversity of national education systems.



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It will contribute to the professional and personal (self)improvement of managers of textile and clothing SMEs.

Ultimately, the EQF developed within the TECLO Knowledge Alliance aims to contribute to wider lifelong learning goals and increase the learning and labour mobility, employability and social integration of the work forces.

6. European Qualifications Framework for the Profession: Textile and Clothing Manager

Learning Area A. Textile and clothing industry

Unit 1A: Management of textile processes

Learning outcome 1.1: Plan, organize and control fibre, yarn, fabric and nonwoven production and finishing processes

Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the raw materials used in the textile industry - Knows about the typologies of fibre, yarn, fabric and nonwoven production processes - Knows the functionalities of the different types of fibres and yarns - Understands the theoretical and methodological concepts in the area of textiles - Knows the characteristics and application fields of materials in order to obtain products with specific properties - Knows about fabrics in terms of typologies, characteristics, applications, adaptability and performance related to pattern making and colour rendering - Knows about legislation regarding production including safety and design standards - Knows about finishing technologies and products 	<ul style="list-style-type: none"> - Identifies and selects the raw materials in accordance to the required product properties - Analyzes and applies main unitary operations and the systems which form the yarn, fabric and nonwoven manufacturing processes - Optimizes mechanical and chemical processes by transferring theoretical knowledge into practice and to achieve a higher quality of the final product - Supervises, analyses and manages the production process - Applies technical and technological knowledge specifically related to industrial production processes in the field of textiles - Ensures that production meets the requirements 	<ul style="list-style-type: none"> - Is able to know the use of fibres, yarns, fabrics and nonwoven structures according to specifications - Is able to use analytical techniques for the qualitative and quantitative analysis of the microstructure and composition of fibres - Is able to link the effects of using various raw materials and mechanical and chemical technological factors to the structure and properties of yarns, woven and knitted fabrics and nonwovens - Is able to manage the most technologically demanding processes in the textile industry - Is able to plan complex products and technological processes - Is able to analyse, synthesize and design the entire textile process - Is able to optimize and manage textile finishing processes - Is able to select the appropriate auxiliary and detergency products for each process - Is able to use analytical techniques for the qualitative and quantitative analysis of auxiliary products

Unit 2A: Management of clothing processes		
Learning outcome 2.1: Plan, organize and control clothing processes		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Understands the theoretical and methodological concepts in the area of clothing making - Knows the labelling standards - Knows about the identification, evaluation and maintenance of clothing - Knows about textile design and pattern making - Knows the sewing processes - Knows about electronic clothing production 	<ul style="list-style-type: none"> - Applies technical and technological knowledge specifically related to clothing production processes - Ensures that production meets the requirements - Supervises, analyses and manages the clothing production process 	<ul style="list-style-type: none"> - Is able to use creative and innovation techniques in the design, balancing and re-balancing of polyvalent flexible systems for garments - Is able to understand advanced methods to design and model clothes with complex shapes - Is able to identify technologies to conceptualize the design ideas - Is able to identify the properties of the fabrics according to their application - Is able to determine the characteristics of the fabrics and their handling in the garment making process
Unit 3A: Operations and supply chain management		
Learning outcome 3.1: Production planning and control		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the company's manufacturing processes and equipment capabilities - Has knowledge on manufacturing planning, production scheduling, product definition, inventory control and materials requirements planning. - Possesses basic knowledge of supply chain activities, including transformation of natural resources, raw materials, and components into a finished product - Knows the concepts of production and supply chain methodologies and World Class 	<ul style="list-style-type: none"> - Assists manufacturing with process improvement and lean initiatives - Assists manufacturing management in the development of meaningful productivity and performance measurements - Participates in the definition of the supply chain strategy - Monitors the supply chain processes - Determines departmental inventory management strategies and objectives - Identifies and manages risks within the supply chain 	<ul style="list-style-type: none"> - Is able to understand calculations for efficiency, utilization, and productivity - Is able to understand production and supply chain concepts and practices - Is able to understand the output of materials requirement planning (MRP), capacity management, and advanced planning system technologies - Is able to understand standard enterprise resource planning (ERP) and supply chain management (SCM) system technologies - Is able to understand the different classes of

<p>Manufacturing (such as lean and agile manufacturing and just-in-time (JIT))</p> <ul style="list-style-type: none"> - Knows about warehouse planning 	<ul style="list-style-type: none"> - Proposes new systems, best practices and other optimizations in order to make the business grow 	<p>inventory (raw materials, work-in-process, finished goods, maintenance-repair-operations, service parts, damaged, and obsolete)</p>
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Learning Area B. Marketing and communication		
Unit 4B: Promote products and services		
Learning outcome 4.1: Plan and implement marketing strategies		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows marketing techniques and marketing as an instrument for commercial management - Knows the laws regulating the market - Identifies and defines the role of administrations, institutional partners and sector actors - Knows how to develop strategic analysis and how to use the marketing tools as SWOT, Canvas and others - Knows the competitors, the market and main distribution channels - Knows the principles of marketing-mix - Knows the main national and international fairs and exhibitions in the sector - Is familiar with B2B (<i>Business to Business</i>) and B2C (<i>Business to Consumer</i>) strategies 	<ul style="list-style-type: none"> - Develops the strategy, the company's marketing plan according to the market survey and controls the deployment of operations - Integrates and applies new trends in marketing and market research - Identifies target customers and their needs - Develops and monitors the elements of the marketing budget for all the company's products - Achieves the balance of marketing actions and proposes axes of evolution - Establishes proper distribution policies - Organizes external communication and public relations - Uses marketing tools to generate new product/services ideas 	<ul style="list-style-type: none"> - Has an strategic vision of global integrated marketing - Is able to define a competitive and differentiated products/services offer - Is able to understand customers' needs - Studies and evaluates the activity and results of competitors - Is able to undertake a segmented analysis of the clients - Is able to estimate the human and material resources required for implementing different marketing strategies - Is able to identify niche markets - Is able to communicate and interact both orally and in writing in multiple languages, including English - Is able to define and implement the marketing strategy of the company according to economic profitability targets - Is able to define a strategic plan and position the company on the markets - Is able to use creativity in defining new products/services

		- Is able to select and define participation at international events
Learning outcome 4.2: Promote products through ICTs, social media and traditional channels		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the available information and communication technologies - Knows how to use social media in order to maximise the promotion - Knows main textile and clothing related media - Knows how to apply and use e-commerce - Is aware of the main fairs, exhibitions and conferences organised in the textile and clothing field 	<ul style="list-style-type: none"> - Promotes products through new ICTs and social media - Improves business results through the use of information technologies - Manages the presence of companies' new products and services at textile fairs and conferences - Promotes products and services via traditional publication channels (such as journals, advertisements in newspapers, ...) 	<ul style="list-style-type: none"> - Uses the new communication technologies with the aim of promoting products and services - Uses the ICT to communicate with clients - Is able to target markets and customers - Is able to apply Computer Aided Engineering (CAE) tools and advanced communication instruments in a creative and purposeful way - Is able to give presentations at conferences and fairs to promote products and services - Is able to write promotional texts
Learning outcome 4.3: Contact with the clients		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Has a good knowledge of the company' clients - Knows how to communicate with various types of clients, according to their background/education level 	<ul style="list-style-type: none"> - Follows up the current clients of the company - Develops strategic actions to foster loyalty of current clients 	<ul style="list-style-type: none"> - Is able to identify client needs - Is able to communicate and interact both orally and in writing in multiple languages, including English - Is able to interact and communicate with clients from different countries and with different cultures - Is able to solve conflicts - Ensures clients loyalty - Is able to report on technical or scientific subjects verbally, in writing, and using graphics

Learning Area C. International trade		
Unit 5C: Develop and implement exportation plans		
Learning outcome 5.1: Define internationalization strategies		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the main concepts of international trade - Knows the principles of marketing-mix - Knows the main international fairs in the sector - Knows the international trade agreements of the countries of interest - Knows the barriers to enter new markets - Knows the difference of cultures - Knows about international logistics 	<ul style="list-style-type: none"> - Preparation of international cooperation agreements - Preparation of international offers - Definition of international marketing-mix policies 	<ul style="list-style-type: none"> - Is able to search for access to export credit - Is able to search for strategic alliances
Learning outcome 5.2: Identify new market opportunities		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the principles of geomarketing - Knows the main characteristics of the different applications of textile materials' markets (fashion, home, agriculture, automotive, transportation, industrial uses, civil engineering, personal protection, sport, medicine-hygienic, architecture, construction) - Knows the new trends in the textile and clothing sector 	<ul style="list-style-type: none"> - Applies geomarketing tools - Searches for niche markets - Watches the new trends in the textile and clothing sector 	<ul style="list-style-type: none"> - Is able to understand and interpret geomarketing results - Is able to show technical creativity and use relevant knowledge from other disciplines in order to identify new markets - Is able to analyse the trends in the textile and clothing sector in order to select and follow the trends which could benefit the company

Learning outcome 5.3: International negotiations		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the techniques of international negotiation processes - Knows international payment methods - Knows the taxation systems of the different countries - Knows the applicable international trade laws - Is familiar with a variety of the field's concepts, practices, and procedures 	<ul style="list-style-type: none"> - Participates in international negotiations on export opportunities - Identifies potential international suppliers and clients 	<ul style="list-style-type: none"> - Is able to communicate and interact both orally and in writing in multiple languages, including English - Is able to negotiate with international companies - Is able to interact and communicate with people with different cultures - Is able to understand different ways of doing business - Is able to comprehend, accept and respect cultural values of people with different backgrounds - Is able to search for and select international customers according to the company's export strategy and negotiate commercial contracts (on prices, deadlines, quality, etc.)

Learning Area D. Innovation		
Unit 6D: Management of R&D+I projects		
Learning outcome 6.1: Technology watch and competitive intelligence		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the sources for the technology watch - Knows how to manage databases and specific bibliography 	<ul style="list-style-type: none"> - Identifies possible collaborations with technology providers - Stays up-to-date with the evolutions in the discipline to elevate the own competences 	<ul style="list-style-type: none"> - Is able to develop a technology watch strategy - Is able to identify market developments and trends - Is able to seek new sources of knowledge through scientific research methods
Learning outcome 6.2: Development of R&D+I projects		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows how to elaborate, develop and manage R&D+I projects - Knows the national and international financing programmes for R&D+I projects - Is aware of the fiscal incentives to R&D+I - Knows how to access EU financing 	<ul style="list-style-type: none"> - Maintains regular contact with research institutes and technological centers - Designs and develops competitive products / services in the field of industrial engineering, with a focus on the textile and clothing industry - Applies creative engineering techniques for the integrated development of new textile and clothing products in relation to consumer demands - Manages and organizes product design and development processes 	<ul style="list-style-type: none"> - Is able to put research and development in a societal context, taking into account ethical considerations - Is able to manage scientific and research projects in the area of textiles and clothing - Is able to form multidisciplinary teams for product development - Is able to analyze complex problems and formulate them into concrete research questions

	<ul style="list-style-type: none"> - Uses financial instruments enabling to industrialize and commercialize the fruits of innovation - Defines exploitation agreements with research institutions - Defines and carries out research plans, keeping in mind their chance for implementation 	<ul style="list-style-type: none"> - Is able to attribute the properties of textile materials to develop and characterize new products according to the applicable standards for their development - Is able to analyse technical and scientific information and draw conclusions - Collects, analyzes and assesses marketable products as a result of the research process - Is able to identify and quantify R&D+I results - Is able to apply knowledge in a creative, purposeful and innovative way to research and conceptual design - Is able to formulate objectives, report efficiently, keep track of targets, progress of the project, etc.
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Learning outcome 6.3: Protection of IPR		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows and understands the general terminology and principles relevant to intellectual and industrial property laws - Knows the IPR protection tools (such as patents, trademarks, designs, ...) 	<ul style="list-style-type: none"> - Manages and protects Intellectual property rights (IPR) - Manages a portfolio of current patents 	<ul style="list-style-type: none"> - Is able to participate in a patent preparation - Is able to interpret research findings in an objective and critical manner - Is able to select the most appropriate IPR protection tools and prepare the applications
Learning outcome 6.4: Systematization of innovation		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the innovation systematization standards 	<ul style="list-style-type: none"> - Implements innovation systematization standards - Integrates R&D+I into business strategy - Uses marketing tools to generate innovation 	<ul style="list-style-type: none"> - Is able to manage R&D+I activities by following the ISO Standard

Learning Area E. Quality and environment		
Unit 7E: Quality Management		
Learning outcome 7.1: Development and implementation of quality management systems		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the quality standards - Has specific knowledge about the production processes and related technology 	<ul style="list-style-type: none"> - Manages and promotes the application of quality systems - Develops quality assurance strategies, processes, guidelines and control plans which assure quality and reliability of manufactured products - Leads the development and implementation of corrective actions and preventive measures to achieve quality targets - Develops competences for a strong understanding of ISO 9001 in order to increase the quality of the products 	<ul style="list-style-type: none"> - Has an analytical and logical approach to problem solving - Is able to identify suitable methods and procedures and apply them accurately

Learning outcome 7.2: Control products/services quality		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows how to analyze and interpret quality characteristics of textile and clothing products 	<ul style="list-style-type: none"> - Assesses and ensures the quality of textile and clothing products and processes - Applies specific criteria and methods for the quality evaluation and assurance of textile and clothing products - Investigates the elements that define the quality of textile and clothing products 	<ul style="list-style-type: none"> - Is able to evaluate the quality of textile and clothing products and production processes - Is able to apply principles and methods of quality management - Organizes, supervises and optimizes resources and production processes, with an objective of producing goods or products, according to the requirements of safety, environment, quality, cost, time, and quantity
Unit 8E: Implement environmental management methods		
Learning outcome 8.1: Waste and water treatment management		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the regulations related to waste management - Knows the regulations of sewage - Knows the main purification methods and their role in the treatment of wastewater - Knows how to manage wastes of the different textile and clothing processes - Knows the physico-chemical parameters which are applicable to classify waste 	<ul style="list-style-type: none"> - Identifies and analyses the specific problems of the chemical and mechanical textile and clothing processes and elaborates strategies for solving them - Plans the waste and water treatment management - Checks if the main technologies to treat and recover waste are implemented properly 	<ul style="list-style-type: none"> - Identifies the different typologies of wastes - Identifies and understands the main parameters of sewage - Understands the environmental problems related to the textile and clothing industry and the available technologies and management systems to face them - Is able to understand wastewater treatment processes
Learning outcome 8.2: Application of environmental standards		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the main environmental standards - Knows the Eco-labels - Understands storage, shipping and disposal techniques 	<ul style="list-style-type: none"> - Detects opportunities to implement sustainable certifications/standards, etc. - Drafts and applies working processes and procedures - Communicates safety plans to the workforce 	<ul style="list-style-type: none"> - Is able to understand an LCA (Life Cycle Analysis) - Is able to develop contingency plans for any incident that may occur and to solve problems - Negotiates the implementation of

		<p>procedures</p> <ul style="list-style-type: none"> - Pays attention to entire life cycles of systems, machines and processes and to environmental costs
Learning outcome 8.3: Application of energy efficiency		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the areas of energy expenditures - Is familiar with energy saving and efficiency methods and principles - Knows the emerging technologies of environmental interest in the textile and clothing industry 	<ul style="list-style-type: none"> - Decides on energy providers - Defines the energy saving plan 	<ul style="list-style-type: none"> - Incorporates energy-related economic indicators into the company budget - Creates and enforces internal standards for energy savings and better energy efficiency with a view to cutting production costs
Learning outcome 8.4: Application of sustainable development		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows environmental criteria and practices related to sustainable development - Knows the basis of Corporate Social Responsibility (CSR) 	<ul style="list-style-type: none"> - Elaborates sustainability reports - Reengineers processes according to sustainability - Manages the supply chain with a focus on sustainability - Applies Corporate Social Responsibility principles - Applies eco-design strategies 	<ul style="list-style-type: none"> - Considers environmental standards when selecting suppliers and service providers - Is able to analyze and assess the social and environmental impact of technical solutions

Learning Area F. Management and entrepreneurship

Unit 9F: Management of the company strategy

Learning outcome 9.1: Set the strategy of the company

Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows the micro- and macro-economic indicators which affect the sector - Knows how to develop a business plan - Knows the legal ways of starting new businesses 	<ul style="list-style-type: none"> - Defines the general strategy plan of the company - Designs, organizes and manages productive and business systems, or parts of it, applying in an integrated manner the technical, technological, managerial and economic knowledge and skills. - Generates and maintains competitive advantages on local and global markets specific to the field of industrial engineering, with a focus on the textile and clothing industry, applying in an innovative and integrated manner the knowledge and skills related to product / process innovation, marketing and organisational management 	<ul style="list-style-type: none"> - Understands in an integrated manner the fundamental knowledge within the context of productive and business systems - Is able to develop a solid business plan according to the identified business opportunities - Has sense of initiative - Can turn ideas into action - Recognizes and implements the opportunities for business growth - Uses the specific language and specialized knowledge in relation to different professional environments - Is able to solve complex problems and make decisions in a complex context involving uncertainty and risks - Is able to take decisions in correlation with the analysis of the micro- and macro-economic conditions for business development - Is able to manage multidisciplinary problems in a flexible and creative way, shows versatility - Is able to solve problems with initiative, decision making, creativity and critical thinking - Shows perseverance, innovativeness, and an aptitude for creating added value - Is able to apply creativity in his/her decisions - Is capable of self-learning - Is able to use analytical, logical and holistic

		approaches in problem solving and to notice philosophy in every situation
Learning outcome 9.2: Organisation, management and control of human resources		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows core techniques for human resources management - Knows methods and techniques for staff and team motivation - Knows techniques for conflict resolution - Knows work regulations applied to recruitment - Knows the national collective agreement of the textile and clothing sector - Knows coaching and emotional intelligence techniques - Knows the rules of healthy and safe working conditions - Knows the regulatory measures related to the prevention of accidents and occupational diseases 	<ul style="list-style-type: none"> - Conducts human resources management actions - Creates workteams - Uses teamwork techniques - Manages meetings - Promotes continuous training - Assumes leadership positions on different levels - Time management - Motivates workers - Formulates advanced techniques and procedures for evaluating human resources, stimulates communication and teamwork - Implements the optimal conditions for the performances of business processes to ensure maximum comfort, security and safety and a minimum stress at work 	<ul style="list-style-type: none"> - Has social and communication capabilities to lead work teams - Ensures the good knowledge of rules and the exact and safe application of equipment - Identifies the main sources of risk and pollution of the working environment and undertakes the respective actions for their elimination - Is able to communicate effectively - Ensures that the workforce has the required skills - Is able to mobilize and give meaning to the actions of employees - Is able to generate a good atmosphere at team level - Understands the cultural background of employees
Learning outcome 9.3: Manage the finances, budget and accountancy		
Knowledge	Skills	Competences
<ul style="list-style-type: none"> - Knows budget and financial accounting - Knows the pricing in textile and clothing products - Knows the traceability of textile and clothing products 	<ul style="list-style-type: none"> - Applies cost accounting techniques applicable to textile and clothing processes - Defines procurement strategies - Diagnosis of company profitability and risk - Defines and implements administrative and financial management procedures and the indicators necessary for monitoring them 	<ul style="list-style-type: none"> - Is able to define and follow a budget planning - Is able to finance the business in the global economy and to ensure efficient financial management. - Is able to manage a competitive business

7. Professional profile: Textile and Clothing Manager

7.1 Context of the activity

Managers at textile and clothing SMEs are the main responsible of setting the general strategic lines of the company, in order to ensure and guarantee its profitability and competitiveness.

In carrying out these activities, the textile and clothing manager assumes the following responsibilities (according to the size of the company, the manager may have to directly execute some of them):

1. Responsible for defining the general strategy of the company at medium-long term
2. Responsible for assuring the financial and economic viability of the company
3. Responsible for defining the products/production strategy
4. Responsible for planning marketing strategies
5. Responsible for planning internationalization strategies
6. Responsible for planning the quality and environmental strategy
7. Responsible for planning strategic purchases
8. Responsible for planning the R&D+I strategy
9. Responsible for managing human resources
10. Responsible for managing operational excellence

Personal skills necessary for implementing these activities are: leadership and entrepreneurial skills, professional competences to demonstrate confidence and authority, to observe the moral and ethical standards of behaviour. He/she must be creative. He/she must show loyalty, responsibility, initiative, honesty, pragmatic thinking, adaptation, flexibility, and be able to assess the risks and possible consequences of the management decision making. He/she must use critical and creative thinking in solving problems or conflicts. He/she must be sociable, be able to communicate and lead teams.

The implementation of work activities below is directly related with the knowledge of some laws and regulations: Environmental rules, Labour Code, Internal labour rules, Rules for health and safety, Tax legislation and other laws and regulations.

Nowadays, the requirements for the position textile and clothing manager may be acquired by:

- Bachelor Degree in Textile Engineering (level 6 of EQF), complemented with master in marketing, international trade or MBA (level 7 of EQF), or

- Bachelor Degree in Business Management (level 6 of EQF), complemented with master in textile engineering (level 7 of EQF).

Other required qualifications are: computer literacy, very good knowledge (writing and speaking) of English

7.2 Description of key activities (Ai) and key tasks (Ti)

Activity A1. Plan the general strategy of the company

- T1: Plan the production strategy
 - T1.1: Participate in the products/services design
 - T1.2: Plan the production
- T2: Plan human resources
 - T2.1: Plan staff: needs of new personal; need of replacements
 - T2.2: Define an internal training plan
- T3: Plan the marketing and sales strategy
 - T3.1: Identify clients needs
 - T3.2: Define target markets
 - T3.3: Define strategic actions to maintain clients
- T4: Plan the quality and environmental strategy
 - T4.1: Define main quality parameters
 - T4.2: Define quality objectives
 - T4.3: Define environmental objectives
- T5: Plan the internationalization strategy
 - T5.1: Decide strategic markets for the company
 - T5.1: Decide strategic alliances
 - T5.3: Define international marketing-mix policies
- T6: Plan the R+D+I strategy
 - T6.1: Define main research lines
 - T6.2: Participate in the definition and development of new products/services
- T7: Plan finances
 - T7.1: Plan the budget
 - T7.2: Define the pricing strategy
 - T7.2: Decide and plan future investments: machinery, etc.
- T8: Plan the purchase and sourcing strategy
 - T8.1: Select strategic suppliers: raw materials, technology, energy, etc.
 - T8.2: Plan purchases and negotiations
- T9: Plan the distribution strategy/supply chain

Activity A2. Ensure the right operation of the company activities

- T10: Ensure compliance of labour rules and regulations

T11: Ensure compliance of health and safety conditions
 T12: Ensure the compliance of environmental regulations
 T13: Ensure the implementation of sustainability opportunities
 T14: Communicate with all relevant stakeholders: clients, suppliers, governmental bodies, technology providers, etc.

T15: Follow up all the activities carried out by all the departments' managers

T16: Ensure the quality of the production

T16.1: Supervise the production processes

T16.2: Ensure that the products/services meet the clients' requirements, in terms of quantity, quality, time and cost.

T16.3: Ensure the implementation of measures to achieve quality objectives

T16.4: Keep the equipments/machinery up to date

T17: Ensure the financial and economic viability

T18: Manage operational excellence

T18.1: Strive for continuous improvement of the production processes

T18.2: Implement new technologies

8. Glossary and abbreviations

Term	Abbreviation	Definition
Learning Area	LA	A learning area is a field of knowledge, skill and attitude encompassing a subject or concept. It has predefined learning standards, helping to demonstrate continuity and progression. Within the curriculum the learning area can interlink various subjects.
Unit	U	A learning unit is a component of a qualification, consisting of a coherent set of knowledge, skills and competences that can be assessed and validated. Learning units enable the progressive achievement of qualifications through transfer and accumulation of learning outcomes. They are subject to assessment and validation which verify and record that the learner has achieved the learning outcomes expected. Depending on the existing regulations, learning units may be common to several qualifications or specific to one particular qualification
Learning outcomes	LO	Learning outcomes are statements of what a learner knows, understands and is able to do on completion of a learning process. Learning outcomes can be used for various purposes such as to establish descriptors of qualifications frameworks, define qualifications, design curricula, define assessment criteria, etc.

		Learning outcomes are set out in various levels of detail depending on their purpose and context.
Knowledge	K	“Knowledge” means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the European Qualifications Framework, knowledge is described as theoretical and/or factual.
Skills	S	“Skills” means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the European Qualifications Framework, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments).
Competence	C	“Competence” means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. In the context of the European Qualifications Framework, competence is described in terms of responsibility and autonomy.

9. References

[European ECVET Network](#)

[Learning Opportunities and Qualifications in Europe](#)