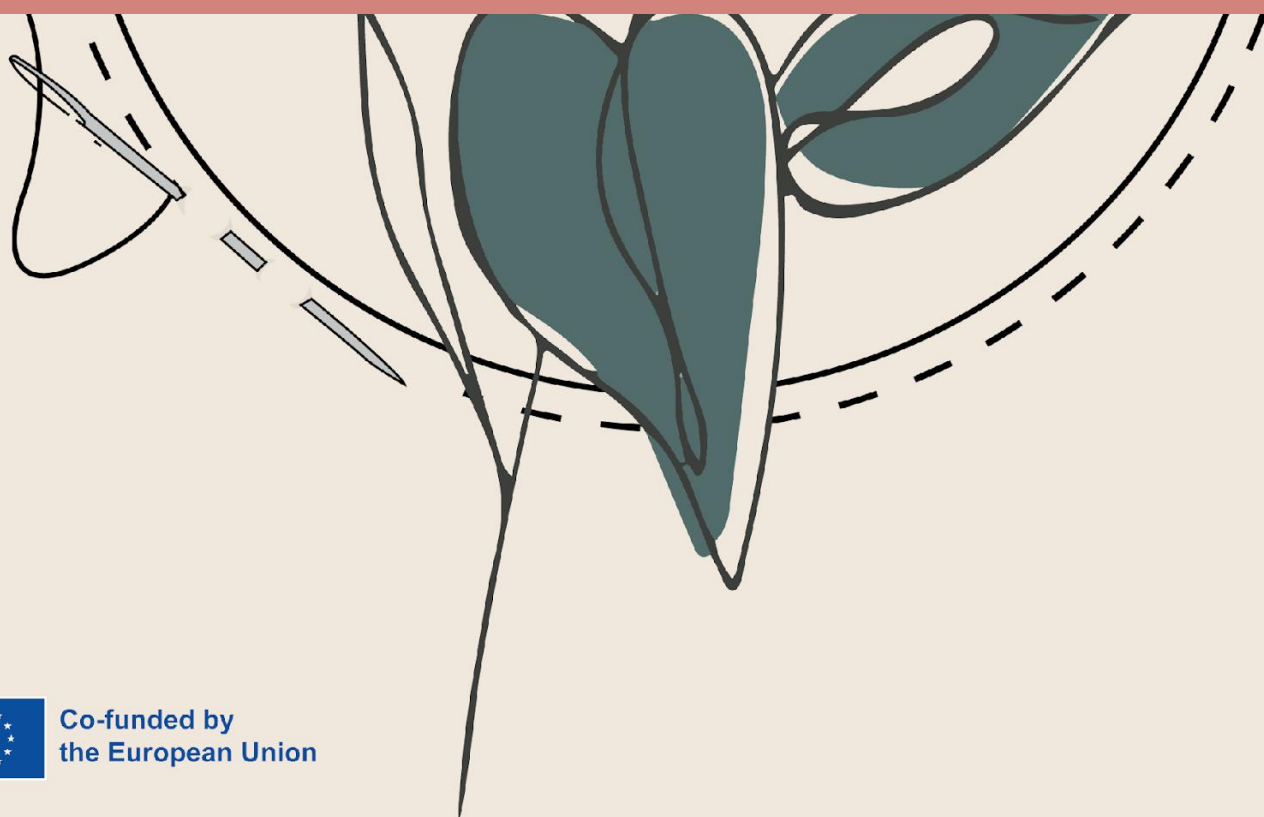




# European State-of-the-Art Report



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## 1. Executive summary

The European state of the art report consists of desk research carried out in the project partner countries, i.e., **Greece, Italy, Romania and Slovenia**. It aims at providing an overview of the current national and European conditions in relation to:

- The **legal framework** concerning environmental sustainability, recycling and circular economy in the fashion and textiles industries;
- The main educational strategies and the main existing **VET and academic educational offers** in the mentioned fields.

The research on the two points above allowed the identification of both **legislative and educational gaps** at national and European level, thus helping the project consortium elaborate **tailored and effective training solutions** to fill them. Indeed, the report will make it possible for project partners to identify the knowledge, competencies and skills that need to be developed most, in order to be in line with the current market conditions and requests.

The main insights and conclusions emerging from the report are the following:

- The sustainability sector is very **broad and fragmented**;
- Very **rarely sustainability is the core** of an academic/VET course;
- The majority of the existing educational opportunities in the field of sustainable fashion is of **VET type**;
- The majority of the existing educational opportunities are either aimed at industry professionals with a **technical background or at beginners**;
- Educational opportunities for **creative professional** figures are hard to find and there is no curriculum that combines technical and creative knowledge;
- **Lack of cooperation** and understanding between technical and creative figures, which reflects in the market;
- There is a significant **gap** between theoretical contents and **professional skills** searched in the job market;
- **Financing for digitalization** and technological innovation are not strictly addressing the field;



- In some EU countries, the legal framework concerning not only sustainable fashion, but also **education to sustainability** in general is not completely developed;
- However, sustainability in the fashion sector is undoubtedly a topic of **great importance at EU level**.

## 2. Introduction

The fashion and textile industry is the second largest polluter in the world, accounting for 5-10% of global CO<sub>2</sub> emissions. Boosting the sustainability of the sector and addressing the challenges brought about by the Covid-19 crisis are among the major European concerns. Indeed, in recent years there has been an endeavour and focus in the European Union to reduce this problem through the use of new sustainable materials, green energy, and professional training, especially promoted by the European Green New Deal.

However, the concept of sustainable fashion concerns more than just addressing fashion textiles or products. It embodies the entire manner in which garments are produced, who produces them, and how we could prolong the lifespan of a product before it reaches the end of its life. This rising sustainability movement minimises the large carbon footprint that the fashion industry and fast fashion have created, and continue creating. When minimising the environmental impact of fashion, all types of pollution are combated, such as air, water, and overall climate change, giving our planet another chance.

Since the changes required are drastic, many businesses will be affected due to the lack of specialised education and preparation, especially in the small and medium-size enterprises (SMEs).

The project aims to help SMEs and consumers to cope with the expected legal and market challenges in the fashion and textiles industry, by increasing their capacity and knowledge through awareness and education. The new ReFashion educational program will be tailored to the SMEs' needs and offered for free, by making use of innovative digital practices, while the ReFashion Consumer Guide will support consumers to get the right



information and be able to change their consumption habits and preferences.

Throughout this report, we will represent the main goals of our study and the methodology used, describe the legal educational framework (at national and European level) and also, narrow down the VET and academic educational offers, curricula, competences, educational contents, topics covered, methods, learning materials, and didactical methods concerning ReFashion topics. This in-depth analysis also gave the possibility to identify gaps in the current national and European conditions, thus allowing us to develop tailored solutions answering specific current needs concerning ReFashion topics.

### 3. Main goals and Methodology

This report consists of a desk research aimed at investigating the current state of art concerning ReFashion project topics in the countries involved, i.e., Greece, Italy, Romania and Slovenia. More in detail, the document aims at providing an overview of the current European conditions in relation to:

- The legal framework concerning environmental sustainability, recycling and circular economy in the fashion and textiles industries. This research has been carried out at global, European and national/local level. This is also useful in order to understand the level of attention and relevance given - at the different levels analysed - to sustainable development and environmental protection within the fashion and textile industries
- The main educational strategies and the main existing VET and academic educational offers in the mentioned fields. More in detail, 3 VET and 3 academic educational offers have been described for each country in order to identify existing training materials, main topics of interest and didactic tools used. This enables the identification of existing knowledge and competences linked to sustainable development and environmental protection in the fashion and textile industry. Moreover, this methodology makes it possible to analyse the differences and peculiarities in educational strategies, topics treated, didactic methodologies and tools among the involved countries.



The research on the two points mentioned above allows the identification of both legislative and educational gaps at national and European level, thus helping the project consortium elaborate tailored and effective training solutions to fill them. Indeed, the report will make it possible for project partners to identify the knowledge, competencies and skills that need to be developed most, in order to be in line with the current market conditions and requests.

## 4. Global and European Legal Framework

At global and European level, environmental education is seen as a fundamental tool to sensitise citizens and communities to a greater responsibility and attention to environmental issues and good governance of the territory.

The global and European strategies concerning sustainability and environmental friendliness have to undoubtedly take into consideration the fashion and textile industries when it comes to establishing a legal framework. Indeed, these industries are among the most necessary but polluting ones in the world. Textiles represent a big problem for the environment, specifically for what concerns the land used and water pollution, due to the production and consumption of the fashion materials.

### GLOBAL LEVEL

At a global level, the growing attention to the interconnection between environmental, social and economic dynamics has led to the elaboration of the broader concept of **Education for Sustainable Development**. This latter is not just about the environment, but also about economy (consumption, poverty, north and south of the world) and society (rights, peace, health, cultural diversity). It is a lifelong process, with a holistic approach, which is not limited to formal learning, but also extends to non-formal and informal learning. Education for Sustainable Development affects all aspects of life and the common values of equity and respect for others, for future generations, for diversity, for the environment, for the resources of the Earth. The international community acknowledged the crucial role of Education for Sustainable Development in 2002, starting with the **World Summit on Sustainable Development** in Johannesburg.





On 25 September 2015, the UN General Assembly adopted the **2030 Agenda for Sustainable Development** which defines 17 new Sustainable Development Goals, including Objective 4 dedicated to quality education and its related targets. Specifically, Target 4.7 recalls the importance of spreading a culture of sustainability that promotes the principles of inclusiveness, peace and equality, in close connection with education for global citizenship.

This new global framework for reorienting humanity towards a common and sustainable path was developed following the United Nations **Conference on Sustainable Development (Rio+20)** held in Rio de Janeiro, in June 2012, which involved in a process lasting three years, all UN Member States.

To contribute to the new 2030 Agenda for Sustainable Development, UNESCO has launched the **Global Action Program on Education for Sustainable Development** with the aim of promoting specific actions and objectives taking into account the transformative and universal approach indicated from the 2030 Agenda.

Lastly, in 2020 UNESCO launched a new initiative "**ESD for 2030 - Roadmap**" to raise awareness among the international community on the fundamental role of education in achieving the 17 Sustainable Development Goals and in addressing the new challenges that emerged from the global crisis of the pandemic. The Roadmap was presented globally during the World Conference on Education for Sustainable Development held in May 2021.

## EU LEVEL

It is a fact that the EU has already done some major work regarding sustainable development.

For instance, already in 2006, the **REACH Regulation (Registration, Evaluation, Authorization and Restriction of Chemicals, EC 1907/2006<sup>1</sup>)** was established to better protect human health and the environment from the risks that chemicals may pose and to enhance the competitiveness of the EU chemical industry by promoting alternative methods for assessing the risk of substances, with the aim of reducing the number of tests carried out

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<sup>1</sup> <https://osha.europa.eu/sl/themes/dangerous-substances/reach>, (3.8.2022)





on animals. It applies to all chemicals, not only those used in industrial processes but also those used in our everyday life, for example in cleaning products, paints and articles. It establishes procedures for the collection and evaluation of information on the properties and hazards of substances, affecting a wide range of businesses in many sectors, even businesses that do not consider themselves to be related to chemicals, such as manufacturers, importers and downstream users. This Regulation is flanked by other pieces of legislation, including the **Textile Fibres Labelling Regulation** (EC 1007/2011), the revised **Drinking Water Directive** and the **CLP Regulation** (EC 1272/2008) on the classification and labelling of dangerous chemical preparations.

On the other hand, there is also the so-called **GOTS (Global organic textile Standard)**<sup>2</sup>. The internationally recognized regulation sets ecological and social criteria for textiles to be made from natural bio-based fibres at all stages of processing (from fibre preparation to garments). Only textiles containing at least 70% bio-based natural fibres can be certified.

Another strategic European document is the **strategy for the sustainability of chemicals - COM (2020) 667**. Almost 20 years after the first strategic approach to chemicals management in the European Union, the EU has now set a new long-term stake for its chemicals policy with the European Green Deal, seeking a toxic-free environment where chemicals are produced and used in a way that maximises their contribution to society, achieving a green and digital transition while avoiding global catastrophes. The strategy proposes a clear roadmap and timeline (up to 2050) for the transformation of industry to attract investment in safe and sustainable products and production methods.

The EU has also adopted a number of measures to mitigate the impact of textile waste on the environment. The Horizon 2020 program funds **RESYNTEX**, a project using chemical recycling, which could provide a circular economy business model for the textile industry.

More recently, the **European Green Deal** came with solutions on how to make the development energy-efficient, sustainable and respectful of

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<sup>2</sup> URL: [https://global-standard.org/?gclid=Cj0KCQjwuaiXBhCCARIsAKZLt3mff7YDHh7JUAZnEaWw-u7QPvyltA9hXilfpCtw2XH02-WROlhaRYaAs0EEALw\\_wcB](https://global-standard.org/?gclid=Cj0KCQjwuaiXBhCCARIsAKZLt3mff7YDHh7JUAZnEaWw-u7QPvyltA9hXilfpCtw2XH02-WROlhaRYaAs0EEALw_wcB), (3.8.2022).



nature. **The 2020 Circular Economy Action Plan and the 2021 update of the EU Industrial Strategy** identify textiles as a key product value chain with an urgent need and a strong potential for the transition to sustainable and circular production. Businesses, consumers and public authorities in the EU are already focusing on increasing the sustainability and circularity of this sector, but the transition is slow, and the environmental and climate footprint of the sector remains high.<sup>3</sup>

Regarding the **Sustainable Development Strategy** and its objectives, the ReFashion topic is part of the 12th Objective and its goals: responsible consumption and production, which advocates for the sustainable management and efficient use of natural resources to be achieved by 2030. The **Circular Economy Action Plan** will pave the way for a competitive, climate-neutral economy where consumers are empowered. Indeed, it provides measures throughout the entire product life cycle and aims to prepare the economy for a green future, in which the textile sector is a key component.

The transition to a circular economy is already underway, with Europe's leading businesses, consumers and public authorities adopting this sustainable model. The Commission will ensure that the transition to the circular economy offers opportunities for all and that no one is left behind. The Circular Economy Action Plan, presented today as part of the EU Industrial Strategy, proposes measures to ensure that:

- The focus is on sectors that use the most resources and where the potential for circularity is high.
- The Commission will introduce concrete measures on textiles - a new EU Textile Strategy to strengthen competitiveness and innovation in the sector and boost the EU textile reuse market.

In 2020 the European Commission also adopted **the EU Industrial Strategy** to lead the transitions towards climate neutrality. The Strategy outlines 3 key points for industrial transformation: global competition, climate neutrality, and a digital future. However, it is a broad legal act and does not cover only

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<sup>3</sup> Communication from the Commission to the European parliament, the Council, the European economic and social committee and the Committee of the regions, EU Strategy for Sustainable and Circular Textiles, COM(2022) 141 final, Brussels, 30.3.2022 (URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52022DC0141> ).



provisions regarding the textile or fashion industry but sets forth regulations for the industry in general.<sup>4</sup>

The **EU Strategy for Sustainable and Circular Textiles**<sup>5</sup> aims to create a coherent framework and the transition of the textiles sector. By 2030, its plan is to place on the EU market textile products, which are long-lived and recyclable, free of hazardous substances and produced in respect of social rights and the environment. In addition, in the textiles sector, producers shall take responsibility for their products, including when they become waste.

Furthermore, there is even a **Green public procurement (GPP) on textiles**.<sup>6</sup> It provides the EU GPP criteria, which are developed to facilitate the inclusion of green requirements in public tender documents. While the adopted EU GPP criteria aims to reach a good balance between environmental performance, costs, market availability, etc. So, procuring authorities may choose to include all or only certain requirements in their tender documents.

**GreenComp** is a reference framework used at European level for the classification, definition and evaluation of sustainability competences. It provides a common ground to learners and guidance to educators, advancing a consensual definition of what sustainability as a competence entails. It responds to the growing need of people to improve and develop the knowledge, skills and attitudes to live, work and act in a sustainable manner. It is designed to support education and training programmes for lifelong learning. It is written for all learners, irrespective of their age and their education level and in any learning setting – formal, non-formal and informal.

GreenComp consists of 12 competences organised into four areas: Embodying sustainability values, Embracing complexity in sustainability, Envisioning sustainable futures, Acting for sustainability.

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<sup>4</sup> URL: <https://www.interregeurope.eu/news-and-events/news/eu-industrial-strategy-key-learning> , 3.8.2022.

<sup>5</sup> Communication from the Commission to the European parliament, the Council, the European economic and social committee and the Committee of the regions, EU Strategy for Sustainable and Circular Textiles, COM(2022) 141 final, Brussels, 30.3.2022 (URL: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52022DC0141> ).

<sup>6</sup> URL: [http://ec.europa.eu/environment/gpp/eu\\_gpp\\_criteria\\_en.htm](http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm) , (3.8.2022).



GreenComp responds to the ambitions set out in the **European Green Deal**, that is the main European strategy to respond to environmental and climate changes through actions concerning environmental sustainability, green innovation, biodiversity and circular economy. Following this political direction, the Commission has published policy papers entitled **European Skills Agenda for Sustainable Competitiveness, Social Fairness and Resilience** (2020) and the **European Education Area by 2025** (2020) underscoring the need to develop a European competence framework on sustainability. In these policy papers, the Commission explicitly recommends activating education and training by developing skills, including upskilling and reskilling, and by investing in learning for environmental sustainability.

Indeed, sustainability competencies can help learners become systemic and critical thinkers, as well as develop agency, and form a knowledge basis for everyone who cares about our planet's present and future state.

Lastly, the **EU biodiversity strategy for 2030**: 'Bringing Nature Back into our Lives' (2020) also highlights the important role that education and training have in enabling the EU to reach its goal to become a climate-neutral continent by 2050.

## 5. National results summary

The results obtained by performing the analysis in every partner country are covered in this report section. Each national analysis contains the following chapters:

- Methodology applied at national level
- Description of the national legal framework
- Educational offers in each partner country, both in VET and academic field
- Identification of synergies and gaps that can be improved

### 5.1. Greece

#### *5.1.1. Methodology*



The main sources of the qualitative and quantitative information indicated in this report were a result of an extended bibliographic, literature and online review. During the project research phase, Innovation Hive completed a mapping document to provide:

- A contextual status report for each national VET system (including the Legal Framework), with a specific focus on the ReFashion project topics, i.e., sustainability and circular economy in the fashion and textile industry
- Information regarding existing training materials for education delivery in the fields of fashion and textile sustainability, including opportunities in informal learning as well as information on the didactic methods used
- Examples of good practices at National level
- A national picture of the state of the art on fashion sustainability policies

Existing reports and studies of informal and non-formal learning were consulted and documented. Information was collectively analysed and compared, where possible, to create the state of the art.

In particular, concerning the Legal Framework most of the information and data provided emerged through extensive desk research at the Greek Ministry of Environment and energy, OECD reports and EOPPEP, the National Organisation for the Certification of Qualifications and Vocational Guidance. Regarding the Educational Offers, the main sources of information were various Greek VET centres.

### *5.1.2. Legal Framework in Greece*

Regarding the textiles legal framework, it is a fact that Greece has not been conformed with the European standards yet.

When it comes to the legal framework of contracts and ethics in the Greek reality, the textile and clothing industry covers a wide range of activities from the transformation of natural (cotton, wool, etc.) or synthetic fibres



(polyesters, etc.) into yarns and fabrics, to the production of a wide variety of products such as high-tech synthetic yarns and clothing. Suppliers should be able to respond to the growing consumers' concern about the compliance of clothing with ethical standards. In this respect, the legal framework should be able to provide adequate protection in a complex and multi-level environment with constantly evolving technology. A great challenge, but with results that will guarantee the best possible impact and protection in the context of an 'ethical' and 'sustainable' fashion industry. The Greek sustainability and circular economy regulations are pictured in the **law 4042/2012**, introducing the **Textile Producer Extended Liability Scheme**.

An extended producer's responsibility scheme for textiles is hereby established in order to promote the re-use of these products and their preparation for re-use and recycling through separate collection.

By 31 December 2023, textile producers are required to design, organise and operate a **Collective Alternative Management System (CEMS)** or to organise an **Individual Alternative Management System (IAMS)**.

Within the obligations described, the most important ones are:

- Bearing the costs of the separate collection of textile products for the purpose of reuse, preparation for reuse and recycling, and the subsequent transport and treatment of such products or waste
- Planning, implementing and bearing the cost of adequate information
- Collection of data, submission of reports to the Hellenic Recycling Organization and bearing of the costs thereof, on textiles placed on the market, those that are reused and waste collected and prepared for reuse and/or recycled
- Implementation of an adequate self-monitoring mechanism for the recycling procedure supported by regular independent audits for evaluation.

By a joint decision of the Ministry of Development and Investment and that of Environment and Energy, which is issued upon the recommendation of the E.O.AN. no later than 3 January 2022, will be defined:

- the minimum requirements for the separate collection of textile products for reuse and recycling
- the separate collection systems for reuse and recycling and the systems for the collection, transport and treatment of the above
- the entities involved in the above systems.





It is commonly agreed that Greece has not yet complied with the European legislative requirements, and it is moving with a slow, but steady pace towards that direction.

A very optimistic fact is that the **5R strategy** is being pictured in the current, and future legislation, and sanctions have been predicted for those who chose not to comply.

### *5.1.3. Educational Offers in Greece*

#### **EDUCATIONAL SYSTEM IN GREECE**

Based on the Greek Constitution, the state education system in Greece should be provided for free, at any level of education, and the system should be centralised. The country's educational representatives come from the completion of higher education studies, hence, the steps one needs to follow in order to become a primary school teacher is to attend a 4-year HE pedagogical program and obtain the relevant degree. Regarding secondary schools, most teachers follow a four or five-year subject-based degree at a teacher education faculty. The Greek law set the duration of the compulsory education to 11 years, meaning from the age of 4 to 15. The stages of the Greek education are mainly 3, and they are the following:

#### **Primary education**

The main stages of primary education are the pre-primary and primary schools. Pre-primary school in Greece has become compulsory for all 4-years-old children, since the school year 2018/19. The school year 2020/21 foresees the integration of the two-years compulsory pre-primary school in the few remaining municipalities. Infant centres, infant/child centres and child centres represent early childhood care. They are under the responsibility of the municipal authorities, and enrol children from the tender age of 2 months, up to the start of compulsory education.

The pre-primary education is followed by the primary one, and its duration in Greece is 6 years. It concerns children in the age range of 6-12 years. Since the school year 2016/17, there is a single type of school with a new





revised daily timetable. Within this framework, all pre-primary and primary schools provide an optional all-day program.

## Secondary education

In secondary education one can meet two cycles of study.

- Gymnasio (lower secondary school). Its duration is 3 years, providing general education and covering ages 12-15. It is a prerequisite for enrolling at general or vocational upper secondary schools, and attendance starts at the age of 12.
- High School (Lykeio)

The second cycle of study is the optional general or vocational upper secondary school. It lasts 3 years, and students enrol at the age of 15. Regarding high schools, two types could be mentioned:

- General High School. It lasts 3 years and includes both common core subjects and optional subjects of specialisation
- Vocational High School.

## Tertiary education

Higher education in Greece embodies the last stage of our educational system and includes the University sector and the Technological sector. The University sector includes Universities, Technical Universities and the School of Fine Arts. The Technological sector included the Technological Education Institutions (TEIs), which were merged in 2019 into the Universities and from then on share the same rights regarding validity of degrees and employability. Nowadays the Technological sector includes the School of Pedagogical and Technological Education (ASPETE).

According to article 16 of the Greek Constitution, higher education is public and exclusively provided by Higher Education Institutions, which are legal entities administered under Public Law, enjoying full self-administration and academic freedom. They are subject to state supervision and financed by the government, in particular from the Minister of Education and Religious Affairs, that carries out the state supervision role.



## Lifelong learning

Lifelong learning policy in Greece is part of a wider development plan. The General Secretariat for Vocational Education, Training and Lifelong Learning plans the public policy of LLL and youth. Non-formal education can lead to certifications recognized at national level and is provided at:

- Second chance schools - SDE
- Vocational education and training- VET
- Lifelong learning centres
- Colleges

In an attempt to connect VET education with the main theme of the project, one could state that VET education offers the most optimal possibilities for lifelong learning, because its curricula and duration could be custom-made and personalised based on the trainees' needs and capabilities. Also, VET education combines multiple forms of training delivery, respecting the fact that trainees could be employed or have a heavy schedule and have a short time to attend courses during the day.

Within the Greek educational system, one could find various choices in order to be educated or trained in fashion, but the majority of these programs belong to VET institutions, and only few are Higher Education study programs.

## ACADEMIC EDUCATION

Starting from the HE programs, a great first choice is being offered by the **International Hellenic University, and its Department of Creative Design and Clothing.**

The Department of Creative Design and Clothing (DSE-Kilkis) belongs to the **School of Design Sciences** of the International Hellenic University and is based in Kilkis. With its establishment and operation, for the first time during the academic year 1999-2000, it is the only Department in Greece for the subject of Fashion Design & Clothing Technology in higher education. For



this reason, it is in close cooperation with its social partners on a national scale (Association of Knitting & Ready-to-wear Enterprises-SEPEE, Hellenic Fur Federation-EOG) as well as with important international partners (Euratex, IFF).

As part of its mission, the Department:

- Provides academic knowledge and skills at undergraduate level in the field of creative design in Clothing, following the model of corresponding European undergraduate level curricula.
- Cooperates with the production units of the Clothing Market and institutions related to its field of knowledge
- Uses modern technologies in education
- Monitors international developments in the scientific and academic field and incorporates them in a dynamic way in the educational process & Research
- Participates in events and competitions in order to develop students' creativity and to keep them in constant contact with the fields of art and technology
- Contributes through its curriculum and research to sustainable development and circular economy
- Collaborates with higher educational institutions in the country and abroad
- It has succeeded in attracting students from the Balkan and international area and looks forward, in the future, to providing education in a foreign language (English).

Some of the most interesting and important lessons of the program are: Principles of Digital Design, Science of Fibres, Technical Sketching, Digital Design of Fabrics, Virtual Prototype, Intelligent Systems in Clothing, Development of Circular Economy products and Systems of Lifecycle and Resources Management.

The successful completion of the program equals a Bachelor's degree in Creative Design and Clothing.

Moving forward with the HE institutions programs, a second interesting option is the **program of Marketing and Fashion Commerce, offered by the Athens University of Economics and Business.**

The program goal is to make students familiar with the fundamental ideas and principles of fashion marketing management, with a focus on the presentation of the structure and operational methods of the domestic and



global fashion industries, the strategic management of fashion branding, the integrated communication strategy of these brands/products with a focus on the use of new technologies, the behaviour of the fashion consumer and the projection of future developments in the industry.

The topics of the program are the following:

- Introduction to the international fashion industry
- Strategic brand management and communication in the fashion industry
- Consumer behaviour in the fashion industry
- Trade of fashion products.

Another aspect of high importance in the fashion and textiles industry is the acquaintance with the updated marketing strategies for the promotion of products and the familiarisation with the new technologies that aim to accelerate fashion production, introduce new innovative ways of retrieving raw materials, and high-tech methods to enhance the production procedure, whilst respecting the environment.

The third HE program offered in Greece is the **Postgraduate Studies Program "New Textile Materials and Technologies in Fashion Design"** by the **Department of Textile Engineering**, TEI of Piraeus.

The goal of the MSc in "New Textile Materials and Technologies in Fashion Design" is to advance scientific understanding and technology across the entire field of study, as well as to promote the development of novel approaches, procedures and products in the field of materials and fashion design, while taking into account the needs of the country and the businesses in the industry.

The programs offered by HE institutions may be limited, but there is no lack of interest in the topics, nor of effective methods, and they are up-to-date with the European and international standards.

## VET EDUCATION

The majority of the educational programs in Greece are being provided by VET institutions.

The first training program is the specialty **"Clothing and Footwear Technology Technician -Fashion Designer"** of the initial vocational training provided at the **Institutes of Vocational Training and Design (I.E.K.)**.



The Fashion Designer, or Clothing Designer or Fashion Designer-Stylist - as it has become internationally prevalent - is the specialist in the field of fashion design that creates with his/her knowledge and high aesthetic perception, from clothing design to the design of clothes.

The specialised knowledge he/she acquires in design and manufacturing methods allows him/her not only to design, but also to supervise production in the 'fashion industry' (haute couture or ready-to-wear).

Necessary criteria for achieving this aim are: artistic, technical and commercial knowledge, as well as a broader education and aesthetic understanding of the subject matter.

The second training program is offered by the **AKMI VET institution** and is called **Fashion Design**. The Fashion Designer of IEK AKMI is the specialised professional who oversees the production process of entire collections for fashion houses and haute couture ateliers. Through an innovative curriculum, he/she is trained in international trends and fashion design techniques, comes into contact with the arts and the principles of aesthetics, thus acquiring all the qualifications for a dynamic career in fashion.

Upon the successful completion of the training program, a certificate is granted.

The third and last training program on fashion and textiles sustainability is offered by the **Athens Fashion Club**, and is known as the **Seminar "Sustainable Strategies and Conscious Fashion"**.

Through this very useful seminar, the designer and the fashion entrepreneur in general will fully understand what exactly sustainable fashion is, what are the benefits and what they should do in order to acquire a "green Identity" for themselves and their business. The seminar goes into a lot of very useful tools that fashion professionals can use in every area from design, manufacturing, business culture, marketing to staff and facilities.

The topics covered by the seminar are the following: basic principles of sustainability, creating a corporate sustainability strategy, planning for sustainability - sustainable design strategies, people (of our business, our community, our supply chain), enterprise culture for employees and community people, supply chain, ethical work and fair trade - tools to add ethical fashion, slow fashion - tools and organisations, sustainable materials - materials based on circularity, sustainable materials guides and ranking resources, materials processing and manufacturing, application of



sustainability in production facilities, jewellery, accessories, footwear, sustainable facilities (buildings and offices), packaging transport and logistics, customer service and problem solving, end of use, reuse and recycling, event planning and production, communication and strategies and circularity: what the experts say.

At the end of the seminar, all participants will have gained an understanding and knowledge of practices for the right approach to Sustainable Fashion.

#### *5.1.4. Synergies and Gaps*

During the implementation of the very first steps of the ReFashion project, a survey was conducted, in order for the gaps concerning sustainability and circularity in the fashion and textiles industry to be identified. The target group demonstrated high interest in the completion of the developed questionnaire and from the exported answers we can deduct some general conclusions.

Regarding understanding the origin and impact of raw materials, the responses of the participants could be characterised as more confident, and their knowledge concerning natural, animal-based and artificial fibres and the process of their production is basic, yet existing. Awareness also exists concerning the environmental impact of textile fibres production, a very characteristic example of which is the thousands of microplastics that are released into the ocean and the environment in general, from the simple action of washing clothes made of artificial fibres.

For what concerns circular and sustainable fabrics, knowledge gaps begin to make their appearance. There is no deep and thorough understanding, nor proper information when it comes to innovative sustainable textiles and materials, eco-friendly production processes, circular fashion strategies, as well as practices that could prolong the use of textile design.

Concerning the circular and sustainable garment design, a knowledge scarcity was also noted in more complex and current subjects, such as the use of digital innovations that can reduce environmental impact at design stage, awareness of pre-consumer resources optimization through virtual collaborative design techniques, and tools for sustainable fashion design (sustainable fashion design model, sustainable fashion bridges ideation toolkit). A general conclusion that could be deduced is the fact that, in its





majority, the Greek fashion reality is not so up-to-date, and needs to be informed and to comply with the European green priorities.

The same conclusion can be deducted for what concerns sustainable production practices. There are competencies regarding the steps of the fashion supply chain and basic sustainable production practices, but not on more sophisticated matters, such as the best available techniques requirements in the textile industry and the ability to carry out a resource efficiency and a cleaner production assessment study.

Elaborating further on enhancing product durability and garments life cycle, great results were noted towards change, fostering more sustainable and circular behaviours in everyday life, as well as making a never-ending effort towards keeping up with the current innovations regarding sustainable and circular clothing and textiles.

When it comes to end-of-life management, as well as to implementing circularity and sustainability practices in the fashion and textiles industry, respondents are aware of various end-of-life garment possibilities, are conformed with the idea of second-hand clothes purchase, and are familiar with sustainable clothing and textile end-of-life alternatives. Furthermore, respondents are familiar with circularity and its principles, as well as practising them in the fashion and textile industry.

As a general remark, the Greek reality, as envisioned through the responses of the ReFashion questionnaire, needs to be updated on the current and dramatically changing status of the fashion and textiles industry and on the requirements set by the new priorities of the European Union regarding sustainability and digital transition. But the encouraging indicator is that, although knowledge is basic, yet fundamental, there is a great will for enhancing that knowledge.

Overall, the Greek reality has not been conformed completely with the European and international standards yet, but Greek fashion experts and textiles industries are welcoming with pleasure the new innovative methods for raw materials alterations, production, management and marketing, and more and more training educational programs on sustainable fashion, textiles and design are being published every day, indicating the will of the Greek fashion reality to be informed and educated on the subject.





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## 5.2. Italy

### 5.2.1. Methodology



The primary sources of the data reported in this research derive from an accurate analysis of current educational initiatives, official data and national regulations that are currently in force in the Italian territory. For what concerns the legal framework, the information is based on official legislative documents that can be found on the webpage of the Italian competent authorities, such as the Ministry of Ecological Transition or the national Institute for Environmental Protection and Research.

For what concerns educational initiatives, the present desk research reports the ones that have been considered the most important and significant ones. Their research started with the analysis of the most important national educational institutions – both public and private – such as the National Chambers of Fashion, the Academy of Fashion or the Milan Fashion Institute, which have been considered to be the most up-to-date ones, and therefore a good starting point for our desk research. The study continues with educational offers proposed by other educational institutions, chosen as good examples due to the good match between the topics treated by them and the ReFashion ones.

### *5.2.2. Legal Framework in Italy*

In Italy, the main institution responsible for recycling and circular economy policies is the **Ministry of Ecological Transition**. It promotes good environmental practices, sustainability initiatives and environmental education in schools. Indeed, environmental education is a fundamental tool to sensitise citizens and communities to greater responsibility and attention to environmental issues and good governance of the territory. The growing attention to the interconnection between environmental, social and economic dynamics has led to the elaboration of the broader concept of Education for Sustainable Development.

At national level, in December 2017, the **National Strategy for Sustainable Development** was adopted with the CIPE Resolution, which represents the coordination tool for the implementation in Italy of the United Nations 2030 Agenda. The document contains strategic choices and national objectives articulated within 6 areas (People, Planet, Peace, Prosperity, Partnership and Vectors of sustainability) and includes education for sustainable



development in the system of so-called sustainability vectors, defined as areas of transversal action and fundamental levers to initiate, guide, manage and monitor the integration of sustainability in national policies, plans and projects.

Also in 2017, the Ministry of Ecological Transition participated in the Working Table for the drafting of the **National Strategy for Education to Global Citizenship**, recalling the UNESCO indications and the target 4.7 of Objective 4 (Quality education) of the 2030 Agenda. It represents a fundamental tool to ensure a dialogue between institutions, civil society, schools, the media and the world of work and business committed to the issues of citizenship, peace, sustainability, equity, human rights and diversity.

In this reference framework and in implementation of the **National Environmental Education Plan**, resulting from the agreement between the Ministry of Education and the Ministry of Ecological Transition of 6 December 2018, environmental education initiatives were financed, with the involvement of primary and secondary schools, also through notices of interest for the selection of proposals for environmental education activities consistent with the principles and commitments expressed in the **Environmental Education Charter**, approved on 23 November 2016 on the occasion of the General States of the Environment and with the Plastic Free Strategy.

In collaboration with the National Institute for Environmental Protection and Research, a collaboration agreement was signed in the field of environmental education and sustainability, in order to support the process of relaunching the national INFEA system (information, training and environmental education) through an agreed plan of integrated actions, also through the involvement of the Agencies of the National System for the Protection of the Environment.

For what concerns sustainable fashion in Italy, the **Manifesto of sustainability for fashion of 13 June 2012** promoted by the National Chamber of Italian Fashion established ten points with the aim of creating an "Italian way" to responsible and sustainable fashion and to encourage the adoption of responsible management models throughout the fashion value chain to the benefit of the country system. The ten points are reported in the "other information" section.

### *5.2.3. Educational Offers in Italy*



## EDUCATIONAL SYSTEM IN ITALY

Education in Italy is free and compulsory for children aged between 6 and 16 years. The Italian education system is divided into five main levels:

1. Preschool (Scuola materna) or nursery (Scuola dell'infanzia/Asilo nido) – non compulsory
2. Primary education (Scuola primaria) - compulsory
3. Lower secondary school (Scuola secondaria di primo grado/Scuola Media) - compulsory
4. Upper secondary school (Scuola secondaria di secondo grado/Scuola Superiore) – equivalent of high school
  - 4.1. Alternatively, Technical and Professional Institutes
5. University
  - Bachelor's degree (Laurea)
  - Master's degree (Laurea magistrale)
  - PhD (Dottorato di ricerca)

Universities play a crucial role in the short-term implementation of education for sustainable development goals (SDGs). The fourth SDG aims to “ensure inclusive and equitable quality education and to promote lifelong learning opportunities for all”. Indeed, SDG4 is not intended as a goal in itself, but rather, a tool to achieve different goals and explore the best practices, via deductive-theoretical or inductive-experiential methods.

An education in sustainability for fashion design students in the VET sector is about meeting the growing need for integrating sustainability knowledge with practical skills training in fashion design to make students ready for the future needs of our industry and society.

**Education for Sustainability (EfS)** is directed to new generations of leaders and local actors, to contribute to the promotion of sustainability in the socio-technical systems. Higher education institutions (HEIs) often manage large scale portions of cities (e.g., buildings, laboratories, dormitories), in which sustainability principles could be “practised after preached”. In this sense, the contribution of HEIs to SDGs implementation goes well beyond the curricula development, and HEIs can be considered as learning communities, in which a variety of practices, discourses and policies coalesce, leading to the elaboration of complex and changing



representations and practices of sustainability, and even more difficult to grasp behavioural changes.

The recent creation of the **Italian Network for Sustainable Universities (RUS)**, recognised by the Conference of Italian University Rectors (CRUI) in July 2015, is aligned with the **Sustainable Development Solutions Network (SDSN)** aims. It is part of a national institutional resetting on the SDGs implementation, intending to coordinate the actions of all campuses willing to shift the business as a usual model towards a just, sustainable future.

The VET educational system in Italy is structured in two macro-bands:

- The first one is accessible after passing the lower secondary school (or middle school, which lasts three years and ends at 13 years of age) and includes vocational institutes. This VET path lasts 5 years and is an alternative to high school (which in Italy lasts 5 years as well)
- regional vocational training, generally accessible after passing the secondary school (which lasts 5 years and ends at 18 years of age), which includes second-level regional vocational training, namely IFTS and ITS.

An "Istituto tecnico superiore" (abbreviated ITS – Higher Technical Institute) is an Italian tertiary educational institution. They were established in 2008, and are modelled on the Fachhochschule system of Germany. Programs have a duration of two or three years and require a high school degree for access.

The Institutes of "Istruzione e Formazione Tecnica Superiore" (abbreviated IFTS – Higher Technical Education and Training) are managed at Regional level and their duration varies between 800 and 1000 hours, of which usually almost half are dedicated to practice. IFTSs are equivalent to post-secondary vocational education. Programs have a duration of one year and require a high school degree for access. Each region, every year, can establish further requisites for access.

## VET EDUCATIONAL OFFERS

### ["New Sustainable Fashion" course](#)

This is a short course organised by the Milan Fashion Institute, aiming at preparing graduate and graduating students, young managers, professionals and young entrepreneurs to deal with the complexity of



responsibility in the fashion industry by providing concrete tools and sharing inspiring business practices.

The course aims at sharing with the participants the most updated information and interesting examples on innovative business models in fashion & luxury. The course focuses on the driver of sustainability for the creation of shared value. For them, creating shared value in fashion means being able to answer the needs of many stakeholders: the environment, society, institutions, art, culture, territory and the consumers.

The short course aims at:

- Preparing the participants to deal with the complexity of responsibility in the fashion industry;
- Providing concrete tools to learn how and where to select innovative fibres in fashion, how to build an ingredient branding strategy in sustainability how to create and apply some good responsibility guidelines, how to structure a good sustainability report, how to structure a good business plan in sustainable fashion;
- Sharing inspiring business practices in both mass market, premium and luxury segment, for the different business models

Duration: 4 weeks, 120 hours.

### ["Management of the Sustainable Fashion Supply Chain" - Advanced Training Course](#)

The course will show participants the concepts and tools suitable for rethinking and managing the business processes and strategies of companies in the fashion supply chain in a sustainable way. It will be a up-to-date training course and will touch on issues considered increasingly fundamental and required by the fashion industries, such as the assessment of the environmental impact of production processes, compliance with the new dictates of the circular economy, knowledge of sustainable materials and new sustainable business models, certifications and traceability of products. Given that consumers are increasingly aware of the importance of environmental issues and are very critical of companies in the fashion supply chain that ignore sustainable aspects, this course has been designed to meet these needs and the strong demand from companies for managers of the sustainable fashion supply chain.

Duration: 120 hours

### ["Out of Fashion" – Advanced Training course](#)





Out of Fashion is an advanced training course on Sustainability in fashion with the aim of building an overall vision and a systemic approach to the priorities and problems present today in the textile and clothing sectors.

Starting from the observation of the great changes taking place - the general reduction in consumption, the leap forward of e-commerce, the new European regulations - new strategies and visions will be proposed in the various modules that define the Out of Fashion training project, in order to transform and re-launch the fashion system starting from the Made in Italy vocation for quality.

The course is aimed at professionals, executives, emerging entrepreneurs and young workers in the sectors of fashion, textiles, accessories, retail from functional areas related to product development, design, fashion design, technical design, public relations, marketing, e-commerce and communication.

Out of Fashion is also open to students and recent graduates who are highly motivated to study sustainability issues in their educational path.

The goal of Out of Fashion is the training of key figures who intend to bring the culture of sustainability into their work environments, an indispensable element for re-launching the textile, fashion and clothing sector in the markets of the future.

## ACADEMIC EDUCATIONAL OFFERS

### [Second level Master's Degree in Fashion Direction: product sustainability management](#)

This Master's Degree aims at providing knowledge, competences and analysis tools needed to define and to recognize a sustainable product-service system for a luxury Italian market, fostering a realistic approach to design and to create a new individual and collective corporate behaviour.

The aim of the Master's degree is to deepen tomorrow's managers' knowledge about what are the pillars inherent in the meanings of sustainability, the laws and regulations, the design approaches and the communication analysis tools so that it can lead the luxury fashion companies to a greater awareness of its responsibility on the market. The goal of the Master's degree is to provide the knowledge, skills and analytical tools necessary to the definition and recognition of a product-service system and sustainable process for luxury fashion in Italy.

Duration: 1 year, 1200 hours





### Second level Master's Degree in Fashion Sustainability & Industry Evolution

The Academic Master's Degree in Fashion Sustainability and Industry Evolution, in partnership with Salvatore Ferragamo, Bonaudo and Project Officina Creativa, integrates cultural and design disciplines, examining the entire production cycle (Design, Production, Sales and Distribution, Defection, Return Goods – Shipping, Storage), the business models, legal areas, communication and scientific study areas that are in continuous evolution. In this context, the sociology of cultural processes and the history of fashion have a strong focus on sustainability, addressing it both in the contemporary social and communicative context and in recent history to analyse it concretely. The competence in the merit of materials, processes and production technologies includes international certifications that affect the various areas of the sector and the design part that analyses the system in its entirety and faces the challenge of the tangible application of the skills acquired.

Product culture, which is the basis of the concept of sustainability, is at the centre of the Master's degree which implements an approach to the system in its entirety since the solutions for complex problems involve skills ranging from environmental to social and economic factors.

### Second level Master's Degree in Sustainable Fashion

The Master's Degree in Sustainable Fashion is an up-to-date program designed to shape Sustainability Managers, Circular Economy Managers and Fashion Diversity Managers. These key figures are responsible for innovative materials research, upcycling, recycling, traceability, reporting, transparency, community engagement, environmental health as well as the quality of fashion products and everyday life.

The course concerns topics such as systems thinking, ethical fashion, circular business models and standards, eco-design, diversity and inclusion. Duration: 9 months, 700 hours + internship

#### *5.2.4. Synergies and Gaps*

Italy can be considered as a good European example for what concerns the number and the quality of VET and Academic initiatives aimed at promoting a greener fashion industry, as well as the funding opportunities aimed at fostering sustainability in different sectors, including the fashion one.



For what concerns educational initiatives aimed at developing knowledge and competences related to green fashion, most of them – including the most important and well-known ones – are VET courses. On the contrary, fewer initiatives are included in academic education paths. Therefore, it would be useful if education to a more sustainable fashion was included in educational curricula from earlier phases of Academic education. This would be useful in order to sensitise to a more sustainable fashion industry even those who don't undertake such a specialised and long educational path. At least, it would be useful if some subjects and insights related to sustainability were inserted in more “general” fashion courses, in the case that organising an academic course entirely based on sustainability is too specific.

### *5.2.5. Other Information*

In Italy, the used clothing collection system is represented by a very vast supply chain in which numerous actors interface, as well as by different channels for their conferment.

An important legislation in this concern is the **Legislative Decree 152/2006**, the so-called Consolidated Environmental Law, which states that - after a selection phase - clothing can end up in the reuse, recycling or disposal supply chain.

The **article 14 of Law 166/2016** states that it is possible to give second life to used clothing also through alternative channels to separate collection: the transfer to charitable associations that deal with distributing them to those in need, thus not considering those clothes as waste.

According to the annual report of the Foundation for Sustainable Development and Fise Unicircular, in Italy clothing reuse represents about 68%, recycling 29% while disposal 3%. The Italian scenario described by Ispra data tells of a separate collection of the textile fraction equal to almost 160 thousand tons in 2019, an increase of 7.9% compared to the previous year. In short, more used clothes are going to be recycled, and it is safe to bet that the numbers will increase even more in 2022, due to the fact that – from January 2022 - the separate collection of the textile fraction will become mandatory throughout Italy, following the EU directive 851/2018, ahead of the 2025 deadline set by the European Commission.



What is the fate of our clothes once they are placed in the appropriate street bins? Urban waste from used clothing reaches dedicated facilities where a first selection will define what will be sent for reuse, thus re-entering the market, and what will instead be destined for recycling. The fraction chosen for reuse is subjected to a second selection phase, where operators separate the garments based on their quality with the aim of selecting the fraction with the highest value. Before ending up on the market, the product is sanitised to reach the standards defined by law.

At the same time, the flow of used clothing not suitable for reuse but destined to recycling may turn into rags for industrial use or for the production of new fabric or acoustic and thermal insulation, following the trimming, carding and fraying of the fibres of which it is composed.

The whole complex system aimed at enhancing the textile fraction of urban waste as much as possible follows the first fundamental phase of the entire supply chain, namely the assignment of the management service. On this issue, Utilitalia recently presented in its document "Guidelines for the assignment of the used clothing management service" ([here in Italian](#)) the main procedures currently envisaged on the Italian territory.

Urban hygiene companies can be responsible for the collection, transport and recovery service, and entrust the final treatment phase to a third party who manages dedicated plants and facilities. This option is considered more flexible, but its limit is the impossibility of having control over the phases subsequent to the recovery phase – i.e. all the activities that take place in the final treatment plants - which are in any case part of the supply chain.

There is also the possibility of entrusting the collection and transport service separately, then selling the waste to recovery plants through a tender or auction. In this case, the contracting authority has the possibility to more directly monitor the effectiveness and quality of the collection, and being responsible for choosing who will take care of the valorisation of the waste, it will have the right to request guarantees and compliance with certain requirements. This method of entrusting the management service "breaks the supply chain" according to Utilitalia: whoever collects the textile waste



could therefore be induced not to pursue the quality objectives of the collected material, since it is not responsible for its enhancement.

The last option requires an integrated assignment of the entire cycle: collection, transport and final treatment. It is possible to participate in the tender through forms of aggregation of companies that will have to guarantee control over all stages of the supply chain: in this way the contracting authority will be able to define criteria and standards to be respected, from collection to final treatment.

Whether you choose one or the other method of entrusting the used clothing management service, Utilitalia wanted to offer indications and recommendations that may be useful in the decision-making phase for the contracting stations. These are guidelines that, in addition to referring to the general principles of the code of public contracts, bring to light other important criteria to always keep in mind: for example, we are talking about the guarantee of quality of performance, effectiveness, cost-effectiveness, free competition and others. aspects related to the social sphere. This means that those who will take care of the service should also pursue the protection of health, the environment and the promotion of sustainable development. From an environmental point of view, the federation of public service companies focuses, for example, on requirements regarding the quality of the activities carried out, but also the tracking of flows in the entire supply chain. Anyone applying to be responsible for the management cycle of used clothing should also be assessed on the basis of the equipment and technical-professional standards in the traceability of flows, and the quality of the management of its activities from an environmental point of view, referring for example to the provision of environmental certifications that recognize compliance with requirements for an effective environmental management system, such as UNI EN ISO 14001: 2015.

**Full text of the Manifesto of Sustainability for Fashion** of 13 June 2012 promoted by the National Chamber of Italian Fashion:

1. Design quality products that can last a long time and minimise the impact on ecosystems
2. Use materials and fabrics with a high environmental and social value



3. Processing of raw materials and production: reduce the environmental and social impacts of the activities and recognize the contribution of everyone to the value of the product
4. Distribution, marketing and sales: include sustainability criteria throughout your product's journey to the customer
5. Management systems: be committed to continuous improvement of business performance
6. Support the territory and the Made in Italy
7. Business Ethics: integrate universal values into your brand
8. Communicate your commitment to sustainability to stakeholders in a transparent way
9. Education: Promote ethics and sustainability to consumers and all other stakeholders
10. Make the Decalogue live

### 5.3. Romania

#### 5.3.1. Methodology

Sources consulted include:

- Official government documents
- Official university curriculums
- Internet sources
- European reports
- Official legislation and policies
- Educational databases

#### 5.3.2. Legal Framework in Romania

In Romania, aspects related to textile waste are regulated by [OUG 92/2021](#), which imposes measures for the management of textile waste such as: preventing the generation of waste, encouragement of reusing products and establishment of schemes that promote repair and reuse activities for textiles. Also, waste producers and waste holders have the obligation to implement separate collections for textiles, by January 1, 2025.



Nevertheless, the local public administration authorities must ensure the necessary spaces for the separate collection of waste, equipping them with containers specific to each type of waste and appropriately developing the established centres, in order to offer the population the opportunity to discard, free of charge, textile waste.

Regarding the European [Sustainable Development Strategy](#) and its objectives - which advocate for the sustainable management and efficient use of natural resources to be achieved by 2030 - Romania still has to significantly reduce the generation of waste through prevention, reduction, recycling and reuse.

Moreover, in September 2022, the [Circular Economy Strategy is to be adopted by the Romanian Government](#) and the implementation plan is expected to be completed by May 2023, announced the Minister of Economy, Florin Spataru.

Circular Economic Clusters are explained in the [Methodological Study of the implementation and technological transfer of circular economy principles at the level of an economic operator or operational groups](#). They are accepted as a solution for combating the crisis and are a tool for increasing competitiveness. Association in clusters determines circular economic development, offers competitive advantages for their members, influences structural changes, revitalises industrial sectors and provides the necessary framework for research, innovation and regional development.

The textile industry is one of the most necessary industries in the world. The most produced are textiles for fashion, which represent a big problem for the environment and the land used or water pollution, due to the production and consumption of the materials. However, on Romanian territory, there is only [one authorised recycler of textile waste](#). Recent technological investments in this sector allow them to recycle a very large and diversified area of textile waste, focusing their activity on post-industrial waste (recovered from authorised collectors or generators, which they transform into recycled fibres through mechanical breakdown).

### *5.3.3. Educational Offers*

## EDUCATIONAL SYSTEM IN ROMANIA





The Romanian educational system has an open (allows pupils to transfer to a different school, class, pathway) and pluralistic character (allows schools to be public, private or confessional, and provides schooling methods in Romanian or other foreign languages). General mandatory education includes primary (ISCED1), lower secondary (ISCED2) and 2 years of the upper secondary levels (ISCED3), in total 11 years of schooling, however, a full basic education is 13 years long. An international Baccalaureate diploma is received when finishing the upper secondary cycle, upon official examination<sup>7</sup>.

The target group of concern in this project are from ISCED3 graduates and higher (ISCED 3-7 – tertiary non-university education, bachelor's and master's student/graduates). In the last decade, interest for professional schools has dropped significantly – directly proportional to the rising interest towards higher education. However, the educational approach in Romanian Universities is highly theoretical, creating a gap between the skills the graduates obtain and the practical skills needed in the field. In this regard, in the last years, investments have been made into encouraging tertiary non-university education (through dual schools), as well as recognition and certification of vocational education and life-long learning programmes.

## HIGHER EDUCATION

The options for Higher Education in the fashion and textile sector are vast, with 26 programs with different specialisations and focus ranging from fashion and textile design, to knitting technologies, textile eco-finishing, textile engineering, leather works and footwear, chemical textile technology, innovative clothing production systems and so on. The faculties are spread throughout the entire country in 10 Universities in major cities like Bucharest, Timișoara, Cluj and Iași.

**"Aurel Vlaicu" University, Arad – Engineer Design Bachelor's**

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[https://eacea.ec.europa.eu/nationalpolicies/eurydice/content/romania\\_en](https://eacea.ec.europa.eu/nationalpolicies/eurydice/content/romania_en)





In this program, the designer works on a project both stylistically and technically, they will think of the clothing product as a three-dimensional space belonging to the physical body, as an object characterised by functions of use, while integrating symbolic and cultural values into the product. Graduates of the "Fashion-Clothing Design" major are considered to be specialists in clothing design. They will be able to work in different phases within a research project, such as developing and defining the lines and trends of a collection, technical product development, through to product management. This specialist can also work in the visual communication of the clothing product, both through traditional design techniques and digital techniques. This University provides the opportunity for the student to learn about sustainable fashion through a specialty optional eco-design discipline. They also teach students about the latest innovations in the field during the specialty technologies course, as well as preparing them for the future developments of the design sector by teaching 3D modelling throughout the whole 3 years of study.

Duration: 3 years

### **"Gheorghe Asachi" Technical University of Iasi - Master Studies: Clothing pattern design and modelling**

Graduation from this master's degree will attest to superior training in the field of clothing design, which will allow to join a team working in this branch of the textile industry. The knowledge acquired will provide an effective response to the technical challenges posed by the rapid pace of change imposed by fashion and market requirements. This program is focused on the technical aspect of clothing production. It includes mastering 3D modelling programs (which are a technology for the future of sustainable fashion), as well as entire compulsory courses about the clothing lifecycle steps and sustainable fashion production techniques. Students get a full understanding of the production processes, the impact of the designing stage, optimal design techniques and textile manufacturing – essentially a clothing engineer training. Some of the courses offered include:

- Functional structuring of products
- Constructive design of clothing
- CAD systems for textile manufacturing
- Quality certification in garments
- Project management



- Clothing lifecycle
- Sustainability in fashion

Duration: 2 years

### **"Gheorghe Asachi" Technical University of Iasi - Master Studies: Eco-design in Textile Finishing**

Eco design is a new movement that aims to develop textile products and technology that are beneficial to the environment. It promotes an environmentally conscious way of living. The core of this urgently required transformation in the sector is eco design in textile finishing. The development of creative, motivating, and high-performing technologies and materials gives rise to new concepts and advancements. Eco design is a new movement that aims to develop textile products and technology that are beneficial to the environment. It promotes an environmentally conscious way of living. The core of this urgently required transformation in the sector is eco design in textile finishing. The development of creative, motivating, and high-performing technologies and materials gives rise to new concepts and advancements. This is a textile engineering master's that has eco-design and sustainability at its core. They teach their students all about the engineering aspects of textile finishing and dyeing, as well as elements of design and all about how to make textile finishing more sustainable with the latest innovations. The competencies gained during this course include:

- create environmentally friendly textile technologies and products
- creation of innovative, inspiring and high-performing technologies and materials
- change of the old technologies with new, non-polluting ones
- knowledge about all the latest sustainable textile materials: organically produced versions of commonly used textile fibres, sustainable artificial fibres or the very new synthetic fibres derived from renewable resources, such as Polylactic acid fibres
- responsible with systematic reduction of product's exposure to current and anticipated future environmental compliance risks and liabilities
- development of innovative sustainable technology products and systems
- exploit and harness of new smart technologies for new business developments and opportunities in the field of textiles



## VET EDUCATION

The vocational education landscape in the field of fashion and textiles has a number of possibilities for those interested. Led by “Gheorghe Asachi” Technical University of Iasi, many VET projects in the field of sustainable textiles, sustainable production of fur, footwear and leather, sustainable fashion entrepreneurship and cross-sectoral collaboration have been elaborated. This University is definitely leading the field of sustainable development in fashion and textiles with 49 funded projects in the field (Erasmus Plus, Horizon and other grants). These projects are clearly addressed to people initiated in the industry that have technical textile development knowledge (usually their own students and alumni)<sup>8</sup>.

On another hand, there are plenty of opportunities to learn fashion design, pattern making and styling in most cities. There are many private institutions that offer certified courses in these topics, however, none of them focus on the sustainability aspect.

### “Salomeia Truta” Fashion Institute

This institute is a professional vocational fashion school that provides more training paths for aspiring designers to choose, depending on their interest. They offer courses about technical pattern making, about fashion design and styling. They place a strong focus on practical work and provide accredited diplomas that are recognized internationally to their graduates. There is very little focus on sustainability, and a lot of focus on the creative aspects of fashion design and garment creation. This type of vocational institution is popular among aspiring Romanian designers that do not have time to commit to an academic path. The working style is very practical and applied, focused on the individual's ideas and creativity to develop final products. The Institute of Fashion offers comprehensive, qualified courses into all the topics relevant for a fashion designer, tailor or stylist. Some of the courses also include lessons about the types of fabrics and fibres, therefore providing a more general understanding of materials to the students. As for pattern making, they have an innovative approach to this by teaching their

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<sup>8</sup> <https://dima.tuiasi.ro/proiecte-cu-finantare-internationala/>



students to work from scratch to their own measurements, rather than use pre-set templates, which offers them deeper understanding and flexibility. On another hand, the innovative approach also consists of teaching students to use the Gemeni CAD program for digital pattern making.

### [Innovative design practices for achieving a new textile circular sector-Design4Circle](#)

Design4Circle seeks to bridge European designers' skill gaps in eco-innovation in clothing and textile items through a digital learning platform. Design4Circle will enable textile designers to decrease environmental effect during the product's life cycle while also developing new and creative companies based on circular economy ideas. The goal of the project is to develop an innovative learning curriculum aligned with the demands of textile and fashion designers toward a circular business model, with the primary target audience being existing and future textile designers.

It not only contains the theory divided in 7 chapters that include all areas of the lifecycle and production of textiles, but also informs the students about the latest innovations and developments in the field and offers lessons about the management of a business in the field. The course is highly detailed and technically-oriented, and it's structured in the following way:

- Module 1 – Introduction to circular economy
- Module 2 - Sustainability challenges in the textile and fashion industry
- Module 3: Materials For A Circular Economy
- Module 4: Design For A Circular Economy
- Module 5: Manufacture for a Circular Economy
- Module 6: Recycling Technologies For A Circular Economy
- Module 7: Business Management In A Circular Economy

### [Circular Economy Innovative Skills in the Textile Sector – ECO TEX](#)

The ultimate goal of the ECO TEX project is to create and deploy an innovative and comprehensive training toolset. The platform is focused on online training and allows information diffusion and experience exchange. Furthermore, it acts as a conduit for all stakeholders in the sector to exchange concerns and recommendations, as well as to promote job possibilities. This course addresses the managerial and corporate responsibility side of textile production, however, with a very strong sustainability focus. They explain circular economy practices, sustainability



assessments, environmental performance and circular business models. The course approaches these aspects from the point of view of a business rather than an individual designer/technician. It addresses already developed professionals in the field with degrees in Environmental Policy, Law, Business or Public Administration, Engineering, Textile Engineering; especially in a managerial position.

The course is structured in four modules covering the following topics:

- Module 1: Sustainability management
- Module 2: Environmental Performance
- Module 3: Corporate Social Responsibility
- Module 4: Circular Economy

#### *5.3.4. Synergies and Gaps*

In conclusion, this analysis report has brought about the most prevalent gaps in education and opportunities in the sustainable fashion and textile field in Romania.

After researching the curricula of the higher education study programs, it is clear that the Universities are meticulous in teaching their students the theory and practice of their chosen specialisation. However, in these subjects, the topics of sustainable development and environmental protection are not well integrated. Only a few of them actually teach subjects directly related or offer the opportunity for students to pursue this path, however, it is clear that sustainable development is hardly the core focus of any of these programs (with few exceptions). The university that has the strongest sustainability focus and the most programs that integrate these topics is the Technical University of Iasi "Gheorghe Asachi". Looking at the landscape, it is clear that, while there are many available options for vocational education, there are two distinctively different target groups addressed – either technical professionals in the textile field, or artistic individuals from the fashion design, styling and garment making area. None of these courses targets both, and it is clear that there is a lack of cooperation and understanding when it comes to the different fields within the T&C sector.



This separation between the two types of practitioners (technical and creative) is also clear in the fashion and textile market. While most of the topics related to sustainable fashion in the field are presented to the technical-oriented learning branch, the majority of sustainable SMEs are founded and owned by the creatives in the industry, the industry and technological developments hardly reaching their potential.

In conclusion, in order to prosper in the sustainable development of the fashion and textile market, the following gaps must be closed:

- Vocational or academic training opportunities mostly address the technical aspect of sustainability (textile engineering, production, etc)
- Educational opportunities for industry creatives (designers, stylists, etc), hardly include sustainability in their curriculum
- There is no curriculum that combines technical and creative knowledge, creating two completely separate groups of industry professionals
- Cooperation between technicians and designers is limited
- The sustainable fashion market is dominated by SMEs founded by the creative professionals, and hardly cooperate with the technicians
- Innovative tools and methods of production are not well integrated in the actual market
- Sustainable fashion and textile initiatives are perceived as experiments in the "creative industries", rather than being systematically applied in the traditional industries
- The target group of the sustainable fashion market is still a niche, being mostly composed from alternative and creative people and not generally adopted by the average citizen
- Financing for digitalization and technological innovation, or developing a sustainable fashion business are not strictly addressing the field
- There is no direct law concerning sustainable development in the fashion or textiles sector, however, European regulations will oblige the Romanian government to adopt laws that encourage circular economy, textile recycling and sustainable development in the upcoming years, which will have an effect on the businesses and consumers





### *5.3.5. Other information*

#### **ONGOING PROJECTS**

##### **European Digital Readiness Strategy for Clothing Studies – EDRESS**

The pandemic has proven that digital skills are now more important than ever to the way we learn, work and live. Traditional teaching methods have proven insufficient, and the importance of training for all stakeholders in higher education for effective delivery of education in the digital environment is greater than ever. Higher education institutions need to adapt their educational content and methods to the demands of the changing world and maximise the impact of education and training in digital skills of European learners from different countries.

The E- DRESS project aims to improve the digital readiness of teaching and academic staff and to create course contents that meet the new challenges of online/blended learning for apparel studies. An open-source online learning platform will be established and will be available in several European languages, including English, German, Czech, Polish and Romanian. The development of effective digital tools in multiple languages through the joint efforts of the collaborative partnership will enable effective digital learning on a broad scale. The proposed project will enable effective interaction between students, teachers and technology to mitigate the negative impact of COVID-19 on traditional education. The physical limitations of conventional education in the new scenarios will be addressed through the optimised use of digital technology by education stakeholders to transform the current challenges into opportunities. Innovative methods of immersive technologies can provide learners with a digital learning experience rarely found in the real world. The partnership aims to use a coherent and collaborative approach to realise digital transformation for apparel studies in their institutions.

##### **Collaborative Online International Learning in Digital Fashion – Digital Fashion**

The DigitalFashion project enables teachers to offer new digital education methods that allow students and professionals in the field to quickly learn the basic techniques for designing and producing personalised products in a virtual environment and fully use the knowledge acquired. This knowledge



is based on digitalisation, an important topic of common interest for all partner countries.

### **Sustainable Fashion Curriculum at Textile Universities in Europe – Development, Implementation and Evaluation of a Teaching Module for Educators – Fashion DIET**

Fashion is a global business with global supply chains and the fashion industry is an extremely energy-consuming, polluting and wasteful system. Fast fashion has accelerated the traditional business model in the fashion industry, encouraging people to buy more clothes by offering low prices and increasing the number of new seasons per year. Along with this growth in consumption comes a growth in ecological and social impact during the whole textile chain. Globalisation also places solid competitive pressure on the European textile and fashion industry. Concerning their quest to decrease its environmental impact, the European strategy for the textile and fashion sector emphasizes sustainable textiles and fashion with an increased benefit by innovation and ecological design. This multidisciplinary field requires extensive new knowledge, considering that the fashion and textile consumer market is one of the most dynamic in terms of competitive development.

Strong demand for sustainability in the textile and fashion industry and its global market imposes a continuous implementation of the guiding principle of Education for Sustainable Development (ESD), both in education and in the industry.

The Fashion DIET project envisages the development of new tools for improving key competencies of lecturers, teachers, trainers, students and young textile specialists with the following three Intellectual Outputs:

1. Further Education Module about ESD in the textile chain;
2. Information and E-Learning Portal;
3. Teaching and Learning Material.

## **5.4. Slovenia**



#### *5.4.1. Methodology*

The current situation in Slovenia concerning initiatives for sustainable fashion seems to be in an early phase, as so far not many measures have integrated these contents. To facilitate our research, we gathered information through internet sources while using the keywords, such as ReFashion, sustainable fashion, recycled fashion. Thus, the primary sources of the data reported in this research derive from an accurate analysis of the official data from credible websites.

#### *5.4.2. Legal Framework in Slovenia*

In Slovenia, 3 organisations - **Ecologists Without Borders**, **Fair Trade Slovenia** and **Focus** - have launched an initiative for the Slovenian Government within the scope of the **Clothes Make the Man** project, of which aim is tax breaks for the re-use of various clothing products<sup>9</sup>.

Furthermore, there is one very specific regulation in the Slovenian law system, which is indirectly connected to the textile industry. "**The Regulation on the emissions of dangerous halogenated hydrocarbons from waste water discharges**" contains two provisions concerning textile industry, but only regarding the emissions of dangerous halogenated hydrocarbons<sup>10</sup>.

The EU has indeed provided many acts and regulations covering the field of sustainable development in the textile industry and it seems the legal framework will be only expanding from here on. All the regulations provided by the EU are legally binding and applicable in Slovenia, however, except implementing the EU documents, Slovenia has not provided any sustainable fashion/textile regulation, nor other kinds of documents. There is an Agenda 2030 for sustainable development, yet its scope does not include the field of textile industry.

#### *5.4.3. Educational Offers in Slovenia*

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<sup>9</sup> <https://www.cnvos.si/aktualno/6257/ekologi-brez-meja-pravicna-trgovina-in-focus-oblikovali-pobudo-za-davcne-olajsave-za-ponovno-uporabo/>, (9.8.2022).

<sup>10</sup> <http://pisrs.si/Pis.web/pregledPredpisa?id=URED628>, (9.8.2022).



## EDUCATIONAL SYSTEM IN SLOVENIA

Pursuant to our Constitution, Slovenians own the right to free education. The Constitution also guarantees disabled children and other severely disabled persons the right to education and training for an active life in society, provided and financed by the state.

The Slovenian education system consists of primary, secondary and tertiary education. School qualifications are classified by the Slovenian Qualifications Framework (SQF). Primary education is provided by kindergartens, primary schools, primary schools with an adapted education program, music schools and educational institutions for children with special educational needs. It is compulsory and financed by public funds. Secondary education consists of upper secondary schools and secondary schools. It is classified as general or vocational technical and secondary professional or technical education.

Tertiary education is provided by both public and private institutions. It consists of higher post-secondary vocational education and higher education. Higher post-secondary vocational education is provided by higher vocational colleges, while higher education is provided by faculties, academies, and independent higher education institutions. The universities and colleges are autonomous.

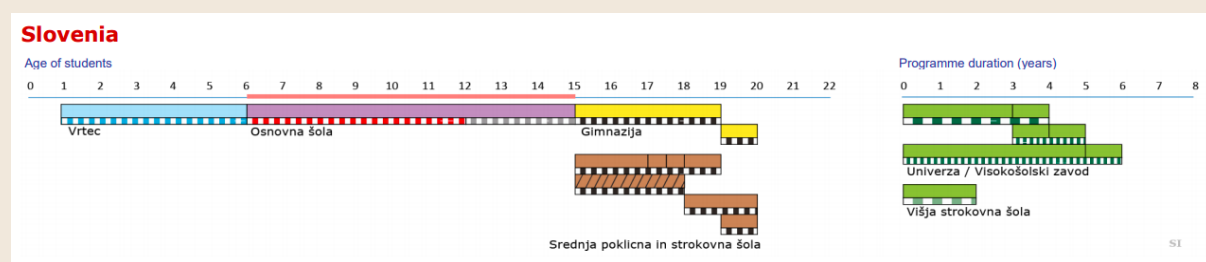


Figure 1: Slovenian public educational system

In comparison to only partially addressed topics on recycled clothing, clothes reuse and such, among youth at the secondary level, as far as the tertiary education is concerned, the curriculum is broader, with more courses specialising in the sector of textile and design.

In addition to the formal education system, the higher education sector often offers training seminars specialised in these subjects. Some good



practices from higher education level at the university provide students with holistic and specific knowledge on fashion and recycled materials.

## ACADEMIC EDUCATION

At the **University of Ljubljana**, within its Faculty of Natural Sciences and Engineering, there are 2 programmes connected to ReFashion:

- Chair of Textile and Fashion Design, which offers Bachelor's, Master's and PhD level of education;
- Chair of Textile, which offers Bachelor's, Master's and PhD level of education.

At the **University of Maribor**, within its Faculty of Mechanical Engineering, there is only 1 programme connected to ReFashion: Design and textile materials.

The Chair of Textile and Fashion Design, Faculty of Natural Sciences and Engineering, University of Ljubljana<sup>11</sup> offers subjects connected to the ReFashion topic, but not until the PhD programme. At that stage, students can choose among subjects, such as:

- Physical organic chemistry with modern methods of separation and identification of organic compounds;
- Optics, spectroscopy and microscopy for graphic and textile applications;
- Fibre forming polymer structure;
- Speciality fibres – selected topics.

The Chair of Textile, Faculty of Natural Sciences and Engineering, University of Ljubljana offers topics connected to the ReFashion topic in the first year of the Bachelor's programme already<sup>12</sup>. The obligatory subjects that could contribute to the knowledge on recycled fashion are:

- Fibres (1<sup>st</sup> year);
- Creativity and product development (1<sup>st</sup> year) and
- Ecology in Textiles 1 (3<sup>rd</sup> year).

<sup>11</sup> Click here to see the curriculum of the Bachelor's Programme-Chair of textile and fashion design; URL: <https://www.ntf.uni-lj.si/oto/studij/2-stopnja/oblikovanje-tekstilij-in-oblacil-mag/predmetnik-vpis-2017-2018/2-letnik-vpis-20172018/>, (4.8.2022).

<sup>12</sup> Click here to see the curriculum of the Bachelor's Programme- Chair of textile; URL: <https://www.ntf.uni-lj.si/toi/studij/1-stopnja-2/nacrtovanje-tekstilij-in-oblacil-un/predmetnik/>, (4.8.2022).



Further on, on Master's programme<sup>13</sup>, there is even wider spectre of courses connected to the sustainable use of fabric and textile:

- Functionalization of ready-made products (obligatory course);
- Ecology in textile processes 2 (obligatory course in 2<sup>nd</sup> year);
- Organic chemistry (basic elective course);
- Biotechnology for textile processing (elective course);
- Biotechnology for textile processing (elective course in 2<sup>nd</sup> year).

Throughout the PhD programme<sup>14</sup>, there is a high number of subjects that are closely connected to the topic of ReFashion and sustainable development, such as:

- Environmental aspects in textiles and graphics;
- Recycling of polymeric materials;
- Plasma technologies for textiles and graphics;
- Advanced technologies in clothing with selected topics of 2d/3d development of garment cuts;
- Biotechnology for textile processing;
- Textile care – selected topics;
- Sustainability at production and processing of paper and packaging;
- Sustainable design.

In July 2022, in line with the scope of the EU project CLEANTEX, a **summer school** was successfully held at the **Faculty of Natural Sciences and Engineering, University of Ljubljana**. It was attended by 22 students and 9 mentors from the 3 member universities of the project, namely Kaunas University of Technology from Lithuania, ENSAIT, Ecole Nationale Supérieure des Arts et Industries Textiles from France and the University of Ljubljana from Slovenia. The main theme of the summer school was the introduction of the circular economy and eco-design into the new production process of a virtual textile company. Along with the professional advice from mentors, students had the tools, such as the CLEANTEX online classroom (with 21 video lectures on circular economy and eco-design in

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<sup>13</sup> Click here to see the curriculum of the Master's Programme- Chair of textile; URL: <https://www.ntf.uni-lj.si/toi/studij/2-stopnja/nacrtovanje-tekstilij-in-oblacil-mag/predmetnik/>, (4.8.2022).

<sup>14</sup> Click here to see the curriculum of the Doctoral Programme- Chair of textile; URL: <https://www.ntf.uni-lj.si/toi/studij/3-stopnja/tekstilstvo-grafika-in-tekstilno-oblikovanje-dr/predmetnik/>, (4.8.2022).





textiles) and an ebook (with practical examples of implementing LCA and eco-design in textile companies).

In Slovenia, there is one more academic programme related to ReFashion at the University of Maribor, which is currently offered as a part-time programme only. The first cycle of the **Bachelor's degree programme Design And Textile Materials, University of Maribor<sup>15</sup>**, comprises a balanced combination of skills which, in accordance with the recommendations of the European Society for the Education of Engineers (SEFI), have been divided into scientific foundations, technological foundations, applied and systemic skills with industrial practice and thesis work, and individual and business skills.

At this Bachelor's level of education, there are many courses connected to the ReFashion:

- Ecology and environmental protection;
- Smart materials and design;
- Textile and clothing care;
- Biotechnological processes in textiles;
- Process water and wastewater;
- Recycling of polymer materials;
- Naturally renewable textile materials.

## VET EDUCATION

Vocational Education and Training play a prominent role in Slovenia. VET attractiveness is high, with the Slovenian education/VET system offering progression opportunities. Slovenia has the highest share of VET learners in upper secondary education in the EU and among the lowest rates of early school leavers. However, a need for strengthening digital skills and broadening opportunities for upskilling and reskilling is on the rise.

VET programmes are offered at upper secondary and tertiary level for young (full-time) and adult (part-time) learners. The VET offer in Slovenia is diversified into different programme types and delivery modes (school-based and apprenticeships), leading to different types of qualifications and consequently offering different progression possibilities. While the Ministry

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<sup>15</sup> URL: <https://moja.um.si/studijski-programi/Strani/akreditacija.aspx?jezik=S&deli=D&program=0000398&fakulteta=FS> , (5.8.2022).



of Education deals with VET at systemic level, the Institute of the Republic of Slovenia for VET has a prominent role in developing and supporting VET at the practical level<sup>16</sup>.

**The SQF Register of Qualifications<sup>17</sup>** is a public information system of the Slovenian Qualifications Framework and provides access to all individual qualifications that can be obtained in Slovenia. If women's entrepreneurial activities are carried out in a craft manner, a craft licence must be obtained and entered in the craft register at the Obrtno-podjetniški Chamber of Slovenia.

As a part of the **Clean Up Slovenia 2012 project** (eg. **Očistimo Slovenijo 2012**), a number of activities took place to encourage the public to prevent and reinforce the message of sustainability. One of them was **"3Re Fashion Show 2012 (Reduce/Reuse/Recycle)"**: the fashion show featured creations and fashion accessories made from *clothes* that Ecologists for Sustainable Development collected around Slovenia, and from packaging materials<sup>18</sup>.

In the field of responsible waste management, the **Environmental Research Institute** with partners, under the **Leonardo da Vinci Partnerships project**, co-funded by the programme **"Social Enterprise And Green Economy - New Models For European Development"**, aims to promote and develop international cooperation in the field of the green economy. The idea behind this project was to improve the skills of vulnerable groups and the inclusion of disadvantaged people in the labour market. Throughout this project (from November 2013 to July 2014) participants created products resulting from the exchange of experiences and the introduction of separate collection of textiles and clothing<sup>19</sup>.

In line with the **World Cleanup Day 2018** campaign there is also a small project called **"Recycling for more value in clothing design"** (eg. Večvrednostno recikliranje pri kreiranju oblačil). This project is not just about cleaning, but it also focused on raising awareness about a better separate

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<sup>16</sup> URL: [https://www.cedefop.europa.eu/files/2021-10/4204\\_en.pdf](https://www.cedefop.europa.eu/files/2021-10/4204_en.pdf), (4.8.2022).

<sup>17</sup> URL: [www.nok.si](http://www.nok.si), (4.8.2022).

<sup>18</sup> URL: [http://ebm.si/p/osvet/gradiva/Gradivo\\_za\\_Medije\\_Modna\\_revija\\_3Re2012\\_3\\_.pdf](http://ebm.si/p/osvet/gradiva/Gradivo_za_Medije_Modna_revija_3Re2012_3_.pdf), (4.8.2022).

<sup>19</sup> URL: <http://www.orz.si/images/stories/aktivni/vsezivljenskoucenje/izvedbeni-opis/Porocilo-PRAKTICNI-IZDELKI-REUSE.pdf>, (4.8.2022).



waste collection and waste prevention. Its motto says: it is not enough to clean once or twice every year, it is more important to work together to ensure that there is no more waste in nature and the surrounding area and that as many people as possible start thinking about Zero Waste alternatives. In the long run, this will ensure that less and less waste is produced and that clean-up campaigns as such will no longer be necessary<sup>20</sup>.

In 2019, the **Centre for Vocational Education and Training of Ljubljana** organised training courses for textile and fashion design study groups. They invited a textile specialist from the Regional Chamber of Crafts and Enterprises, to lead a **workshop on Transforming old, discarded clothes** – about recycling clothes and how cheap fashion affects the environment. From an old, ordinary piece of clothing, they created a completely different one. The goal of this workshop was to encourage the reuse of already discarded textiles<sup>21</sup>.

In conclusion, there are not many vocational educational trainings (VET) covering the ReFashion project fields (such as recycled fashion, clothes reuse, 2<sup>nd</sup> hand shops etc.) in Slovenia. However, there are many international projects, plans and (legal) acts that actually contribute to their development.

#### *5.4.4. Synergies and Gaps*

After reviewing courses, training, and good practices, we found that the approaches towards gaining competences on ReFashion topics are not yet widely used in Slovenia. In addition, the current academic educational offer on these topics is not much emphasised, it is rather relatively sparse. By promoting and disseminating these practices through our project, additional skills are acquired in terms of fashion recycling, recyclable materials and clothes reuse.

Throughout projects and VET educational offers in Slovenia, ReFashion topics have not yet been systematically addressed. There is no defined

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<sup>20</sup> URL: <https://ocistimo.si/clanek/vecvrednostno-recikliranje-pri-kreiranju-oblacil.html> , (4.8.2022).

<sup>21</sup> URL: <https://www.mojabocina.si/radovljica/novice/delavnica-recikliranje-tekstila.html> , (4.8.2022).



curriculum or set of learning objectives together in one place. Academic programmes do offer subjects covering this exact field of study, yet we have to keep in mind that these courses are dedicated to a restricted and closed group of people, i.e., only for the students attending that course. Some work needs to be done to set out what fashion recycling, recyclable materials, clothes reuse actually mean, especially because those are the key factors that will make the fashion industry more sustainable.

Nevertheless, it is fair to confirm that there have already been established some great practices supported by the EU, as we can see in Chapter 4. Even though it was not predicted to research the EU VET practices, rather the ones in Slovenia, we have discovered some amazing projects from which we could learn a lot. ENTeR project has definitely done major work, from which we can only build up and make our ReFashion project even better, more useful and successful.

Therefore, we believe that this project will provide an opportunity to improve the educational offer and skills in Slovenia regarding the ReFashion topics. Accordingly, people should be offered courses aimed at highlighting the importance, benefits, and dimensions of sustainable fashion. There should be programmes that would enlighten each individual with knowledge and encourage him/her to use these skills to change his/her day-to-day fashion choices to more sustainable ones.

#### *5.4.5. Other Information*

##### VET EDUCATIONAL OFFERS IN EU

###### ECAP and used textiles

The document was produced under the European Clothing Action Plan. ECAP's goal is to engender a circular and sustainable approach to fashion and textiles in Europe and is supported by EU LIFE funding. Topics covered include relevant policies, collection methods and quantities and developments - it equips anyone interested with useful information.

###### The ReHubs

The ReHubs initiative brings together key European and world players to solve the European textile waste problem by transforming "waste" into a



resource. This collaboration is set to turn the societal textile waste issue into a business opportunity and to fulfil the EU ambitions of the Green Deal by end 2024 and the transition into Circular Economy. In 2020 EURATEX launched the ReHubs initiative to promote collaboration across the extended textile value chain (considering all on: chemicals, fibres and textiles making, retail, distribution, recycling etc.). EURATEX Task Force works with 14 national associations to review the progress of the ReHubs and align with policy and industry developments at national level.

### SCIRT

The European Union's System Circularity and Innovative Recycling of Textiles (SCIRT) project has been launched to start addressing the issue of clothing waste and recycling, by 18 partners from 5 countries. SCIRT intends to accelerate the transition to a circular fashion system. The project will deliver a closed-loop recycling solution for discarded post-consumer textiles, create new business opportunities by boosting activities within textile value chains, stimulate conscious design and production practices, and raise public awareness on the environmental and social impacts of textile consumption.

### ENTeR project

The ENTeR project has completed its activities after 3,5 years of work and is a good example of a project able to promote and encourage the circular economy and industrial symbiosis in the textile sector. It has realised 9 pilot cases, 5 training modules, a textile waste database, a strategic Agenda and even an action plan. Its goal was to enhance the value of textile waste and, at the same time, to reduce its production in order to prevent the consumption of non-renewable resources.

## CURRICULA

- The curriculum of the Bachelor's Programme, Chair of Textile and Fashion Design, Faculty of Natural Sciences and Engineering, University of Ljubljana: <https://www.ntf.uni-lj.si/oto/studij/2-stopnja/oblikovanje-tekstilij-in-oblacil-mag/predmetnik-vpis-2017-2018/2-letnik-vpis-20172018/>



- The curriculum of the Bachelor's Programme, Chair of Textile, Faculty of Natural Sciences and Engineering, University of Ljubljana: <https://www.ntf.uni-lj.si/toi/studij/1-stopnja-2/nacrtovanje-tekstilij-in-oblacil-un/predmetnik/>
- The curriculum of the Bachelor's Programme, Chair of Textile, Faculty of Natural Sciences and Engineering, University of Ljubljana: <https://www.ntf.uni-lj.si/toi/studij/2-stopnja/nacrtovanje-tekstilij-in-oblacil-mag/predmetnik/>
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<https://www.interreg-central.eu/Content.Node/3.html>

## 6. Conclusions

The state-of-art analysis had the aim of performing an extensive research about the academic and vocational education opportunities concerning sustainable fashion across all four partner countries, as well as the global, European and national legislative framework through which environmental sustainability is regulated, including national education strategies and the regulation of the fashion and textile industries.

The data obtained from the analysis allows draw the following general conclusions.

First of all, the sustainability sector, as well as the fashion and textile industries, are very broad and include several different topics students/trainees can specialise in. This vastness is also visible in the fact that the different countries analysed focus on different topics when establishing their educational offers in the mentioned fields.

Moreover, due to the fact that the sustainability sector and the fashion and textile industries are very fragmented from this point of view, it is almost impossible to find an academic or VET course that allows students to develop knowledge, competencies and skills in all relevant topics concerning these industries. For this reason, in the next future it will be probable to note an increase in the request of more and more specialised fashion figures and sustainability experts in the market, and each professional will be knowledgeable in fewer but more specific sustainable fashion topics. However, for the moment, few job opportunities come from sustainability study paths.

Another issue derives from the fact that the majority of the existing educational opportunities in the field of sustainable fashion is of VET type and they are either aimed at industry professionals with a technical background or at beginners. Educational opportunities specifically offered to creative professional figures are hard to find and there is no curriculum



that combines technical and creative knowledge, creating two completely separate groups of industry professionals. This penalises creative professionals, but also the fashion market as a whole, since it creates a clear separation between creatives and technical figures and limits the exchange of knowledge and good practices.

One last point to highlight is that, in some European countries, the legal framework concerning not only sustainable fashion, but also education to sustainability in general is not completely developed yet and presents several issues that can be improved. However, sustainability in the fashion sector is undoubtedly a topic of great importance, not only at European level but also at global level: this is greatly visible from the numerousness of the legislative measures that have been issued, in particular in the last years. Thus, even if not all European countries have developed a proper national legislation concerning sustainable development in the fashion or textiles sector yet, European regulations will oblige national governments to adapt, promoting laws that encourage circular economy, textile recycling and sustainable development in the upcoming years, which will have an effect both on businesses and on consumers.

In conclusion, it can be highlighted that there is a big need for accessible education in the field of sustainable fashion, that addresses a broader spectrum of topics and of professional figures, combines theoretical knowledge and practical skills, and creates skilled professionals that can answer to the needs of the current job market.



## 7. Annexes

### 7.1. Greece

#### 7.1.1. VET Education

NAME AND LINK TO THE VET COURSE	OBJECTIVES AND TOPICS	COMPETENCIES ACQUIRED AFTER THE COMPLETION OF THE COURSE
<a href="#">"Clothing and Footwear Technology Technician - Fashion Designer"</a> of the initial vocational training provided at the Institutes of Vocational Training and Design Training Institutes (I.E.K.)	<p>The Fashion Designer - Clothing Designer or Fashion Designer-Stylist, as it has become internationally prevalent, is the specialist to create with his/her knowledge and high aesthetic perception, from clothing design to the design of clothes, the designer is the specialist in the field of fashion design.</p>	<p>The specialised knowledge he/she acquires in design and manufacturing methods allows him/her not only to design, but also supervise production in the 'fashion industry' (haute couture or ready-to-wear). Necessary criteria for achieving this aim are: artistic, technical and commercial knowledge,</p>



		and a broader education and aesthetic understanding of the subject matter.
<a href="#">'Fashion Design' by AKMI VET institution</a>	<p>The Fashion Designer of IEK AKMI is the specialised professional who oversees the production process of entire collections for fashion houses and haute couture ateliers. Through an innovative curriculum, he/she is trained in international trends and fashion design techniques, comes into contact with the arts and the principles of aesthetics, thus acquiring all the qualifications for a dynamic career in fashion.</p> <p><b>Curriculum:</b></p> <p>Fashion Design</p> <p>History of Art</p> <p>History of Clothing</p> <p>Free Design-Color</p>	<p>Graduates of the Fashion Design School of AKMI can have a career in:</p> <p>Fashion Houses &amp; High Fashion Atelier</p> <p>High Fashion High Fashion Fashion High Fashion and High Fashion Fashion Fashion Designers</p> <p>Stylist in Fashion Shows</p> <p>Stylists in High Fashion Clothing Stores</p> <p>Fashion Magazines</p>



	<p>Styling/Image Making</p> <p>Aesthetics and Colorology</p> <p>Applied Cutting</p> <p>Applied Sewing</p> <p>Workplace</p> <p>Practical Application in the Specialty</p> <p>Textile Technology</p> <p>Fashion Forecasting-Trends Forecasting</p> <p>Fabric Design-X-Colour-Printing-Printing-Stamps</p> <p>Styling Workshop-photo Shooting</p> <p>Professional Process Simulation</p> <p>Sociology of Fashion</p>	<p>Production Companies</p> <p>Television</p> <p>Cinema</p> <p>As a Freelancer creating your own atelier</p>
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	<p>Costing-Marketing</p> <p>Menswear Technology</p> <p>Organization-Presentation of collections</p>	
<a href="#">Seminar on 'Sustainable Strategies and Conscious Fashion' by the Athens Fashion Club</a>	<p>Through this very useful seminar, the Designer and the Fashion Entrepreneur in general will fully understand what exactly Sustainable Fashion is, what are the benefits and what he/she should do in order to acquire a "Green Identity" for himself/herself and his/her business. The seminar goes into a lot of very useful Tools that the Fashion Professional can use in every area from Design, Manufacturing, Business Culture, Marketing to Staff and Facilities.</p> <p>The topics that the seminar covers are the following: Basic principles of Sustainability, Creating a Corporate Sustainability Strategy, Planning for Sustainability - Sustainable Design Strategies, People (of our Business, our Community, our Supply Chain), Enterprise culture for employees and community people, Supply Chain, Ethical Work and Fair</p>	<p>At the end of the seminar, all participants will have gained an understanding and knowledge of practices for the right approach to Sustainable Fashion.</p>





	<p>Trade - Tools to add Ethical fashion, Slow Fashion - Tools and Organizations, Sustainable Materials - Materials Based on Circularity, Sustainable Materials Guides and Ranking Resources, Materials Processing and Manufacturing, Application of Sustainability in Production Facilities, Jewelry, Accessories, Footwear, Sustainable Facilities (Buildings and Offices), Packaging Transport and Logistics, Customer Service and Problem Solving, End of Use, Reuse and Recycling, Event Planning and Production, Communication and Strategies and Circularity: what the experts say.</p>	
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### 7.1.2. Academic education

NAME AND LINK TO THE VET COURSE	OBJECTIVES AND TOPICS	COMPETENCIES ACQUIRED AFTER THE COMPLETION OF THE COURSE
<a href="#">International Hellenic University, Department of Creative Design and Clothing</a>	<p>The Department of Creative Design and Clothing (DSE-Kilkis) belongs to the School of Design Sciences of the International Hellenic University and is based in Kilkis. With its establishment and operation, for the first time during the academic year 1999-2000, it is the only Department in Greece for the subject of Fashion Design &amp; Clothing Technology in higher education. For this reason, it is in close cooperation with its social partners on a national scale (Association of Knitting &amp; Ready-to-wear Enterprises-SEPEE, Hellenic Fur Federation-EOG) as well as with important international partners (Euratex, IFF).</p> <p>As part of its mission the Department:</p> <ul style="list-style-type: none"> <li>• Provides academic knowledge and skills at undergraduate level in the field of creative design</li> </ul>	<p>Bachelor's degree in Creative Design and Clothing</p>



	<p>in Clothing, following the model of corresponding European undergraduate level curricula.</p> <ul style="list-style-type: none"> <li>• It cooperates with the production units of the Clothing Market and institutions related to its field of knowledge.</li> <li>• It uses modern technologies in education.</li> <li>• Monitors international developments in the scientific and academic field and incorporates them in a dynamic way in the educational process &amp; Research.</li> <li>• It participates in events and competitions in order to develop students' creativity and to keep them in constant contact with the fields of art and technology.</li> <li>• Contributes through its curriculum and Research to sustainable development and circular economy.</li> <li>• It collaborates with higher educational institutions in the country and abroad.</li> <li>• It has succeeded in attracting students from the Balkan and international area and looks forward, in the future, to providing education in a foreign language (English).</li> </ul>	
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	Some of the program's most interesting and important lessons are: Principles of Digital Design, Science of Fibres, Technical Sketching, Digital Design of Fabrics, Virtual Prototype, Intelligent Systems in Clothing, Development of Circular Economy products and Systems of Lifecycle and Resources Management.	
<a href="#"><u>Marketing and Fashion Commerce by the Athens University of Economics and Business</u></a>	<p>The program's goal is to familiarise students with the fundamental ideas and principles of fashion marketing management, with a focus on the presentation of the structure and methods of operation of the domestic and global fashion industries, the strategic management of fashion branding, the integrated communication strategy of these brands/products with a focus on the use of new technologies, the behaviour of the fashion consumer, and the projection of future developments in the industry.</p> <p>The topics of the program are the following:</p> <ul style="list-style-type: none"> <li>• Introduction to the international fashion industry</li> <li>• Strategic brand management and communication in the fashion industry</li> <li>• Consumer behaviour in the fashion industry</li> <li>• Trade of fashion products</li> </ul>	Another aspect of high importance in the fashion and textiles industry is the acquaintance with the updated marketing strategies for the promotion of the products, and the familiarisation with the new technologies, that aim to accelerate fashion production, introduce new innovative ways of retrieving raw materials, and high-tech methods to enhance the production procedure, whilst respecting the environment.



<p><a href="#"><u>Postgraduate Studies Program "New Textile Materials and Technologies in Fashion Design" by the Department of Textile Engineering, TEI of Piraeus.</u></a></p>	<p>The content of the Department of Textile Engineering covers the application of natural sciences in the mechanical and chemical processing of natural, artificial and synthetic fibres for the production of textiles. The curriculum aims at teaching the scientific and technological principles in Textile Engineering. The syllabus of the program is the following:</p> <ul style="list-style-type: none"> <li>• Methodology of Design and Development of Apparel Products</li> <li>• Technology and Innovation in Fashion Design</li> <li>• Physical and Chemical Processes in Modern Textiles</li> <li>• Quality Control of Fabrics and Textile Physics</li> <li>• Applications of New Textiles</li> <li>• Color Science and Digital Printing</li> <li>• Applications of Electronics in Multifunctional Garments</li> <li>• Strategy and Finance of Clothing Businesses</li> <li>• Fashion Product Marketing</li> <li>• Research Methodology and Research Project Management</li> </ul>	<p>The goal of the MSc in "New Textile Materials and Technologies in Fashion Design" is to advance scientific understanding and technology across the MSc's entire field of study, as well as to promote the development of novel approaches, procedures, and products in the field of materials and fashion design while taking into account the needs of the country and the businesses in the industry.</p>
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## 7.2. Italy

### 7.2.1. VET Education

NAME AND LINK TO THE VET COURSE	OBJECTIVES AND TOPICS	COMPETENCIES ACQUIRED AFTER THE COMPLETION OF THE COURSE
<a href="#">New Sustainable Fashion</a>	The course "New Sustainable Fashion" aims at sharing with the participants the most updated information and interesting examples on innovative business models in fashion & luxury. The course focuses on the driver of sustainability for the creation of shared value. Creating shared value in fashion means being able to answer the needs of many stakeholders: the environment, society, institutions, art, culture, territory and the consumers. A responsible fashion company has already started the long and complex journey of integrating ethics and aesthetics into the value chain, in constant balance with all the stakeholders.	This short course aims at: <ul style="list-style-type: none"> <li>- Preparing the participants to deal with the complexity of responsibility in the fashion industry;</li> <li>- Providing concrete tools to learn how and where to select innovative fibres in fashion, how to build an ingredient branding strategy in sustainability how to create and apply some good responsibility guidelines, how to structure a good sustainability report, how to</li> </ul>





	<p><b>Topics:</b> circular economy, recycling, upcycling, prosumer-creation, open-source, crowdfunding, wearable-technologies, online-offline integration, transmedia-storytelling, B-corporations and open-innovation.</p> <p>The short course aims at sharing with the participants the most updated information and interesting examples on innovative business models in fashion &amp; luxury.</p>	<p>structure a good business plan in sustainable fashion;</p> <ul style="list-style-type: none"> <li>- Sharing inspiring business practices in both mass market, premium and luxury segments, for the different business models.</li> </ul>
<p><a href="#">"Management of the Sustainable Fashion Supply Chain" - Advanced Training Course</a></p>	<p>The course is a 120-hour practical training course (with weekend formula on Fridays and Saturdays, 7 weekends in the presence and 4 online), at 360 ° on sustainable fashion, with professional teachers in the sector, 4 visits and the creation of an individual project work to make the training experience more and more updated and closer to the world of work. There will be 6 modules and each module has a duration of 20 hours.</p> <p>Each module includes exercises that will be carried out online and a final verification test.</p> <p><b>Course topics:</b></p> <ol style="list-style-type: none"> <li>1. The supply chain and the production process of the textile-clothing and leather supply chain, analysing the tools and techniques that guarantee compliance with responsible quality standards;</li> </ol>	<p>The course will show participants the concepts and tools suitable for rethinking and managing the business processes and strategies of companies in the fashion supply chain in a sustainable way. It will be a current training course and will touch on issues considered increasingly fundamental and required by the fashion industries, such as the assessment of the environmental impact of production processes, compliance with the new</p>



	<ol style="list-style-type: none"> <li>2. Sustainable materials, analysing their functional characteristics and the most common certifications;</li> <li>3. Ethics and responsibility in the fashion world, through the definition of new policies, tools and procedures for their implementation.</li> <li>4. Circular economy, identifying the possible opportunities and methods of reuse or recycling, with a view to managing the end of life of the product also using eco design techniques and with the interpretation of LCA analysis.</li> <li>5. Sustainable business fashion model: second hand, renting, upcycling.</li> <li>6. Sustainability measurement and objectives, through management tools aimed at measuring performance and communicating it through a sustainability report.</li> </ol>	<p>dictates of the circular economy, knowledge of sustainable materials and new sustainable business models, certifications and traceability of products. Given that consumers are increasingly aware of the importance of environmental issues and are very critical of companies in the fashion supply chain that ignore sustainable aspects, this course has been designed to meet these needs and the strong demand from companies for managers of the sustainable fashion supply chain.</p>
<a href="#"><u>"Out of Fashion" advanced training course</u></a>	<p>Out of Fashion is an advanced training course on Sustainability in fashion with the aim of building an overall vision and a systemic approach to the priorities and problems present today in the textile and clothing sectors. Starting from the observation of the great changes taking place - the general reduction in consumption, the leap</p>	<p>Out of Fashion offers a systemic and 360-degree vision on the theme of sustainability in fashion, addressed in all its many aspects: new business models, fibres, organic and</p>



	<p>forward of e-commerce, the new European regulations - new strategies and visions will be proposed in the various modules that define the Out of Fashion training project, in order to transform and relaunch the fashion system starting from the Made in Italy vocation for quality.</p> <p>Didactic Modules</p> <p><b>Module 1 - THE CULTURE OF SUSTAINABILITY: NEW BUSINESS MODELS FOR SUSTAINABLE DEVELOPMENT</b></p> <p>Why a culture of sustainability is necessary. The change in the global scenarios of the fashion and textile / clothing industry in the post-Covid era. Innovative business models in fashion. The processes of traceability, transparency, circularity. Collaborative consumption. Innovation and social impact. Introducing Inclusive Prosperity. The European scenario: the 17 Sustainable Development Goals, Next Generation EU, the Taxonomy Regulation as a facilitating tool for green investors, international and local financing opportunities for SMEs that focus on sustainability.</p> <p><b>Module 2 - SUSTAINABILITY AS A PROCESS: MATERIALS, CHEMISTRY AND PRODUCTION</b></p>	<p>synthetic materials and environmental sustainability, technological innovations, traceability of the supply chain, responsibility for business and workers' rights, communication and relationship with the consumer, successful case histories.</p> <p>Sustainability plays a key role in this path: transparency and traceability of the supply chain, innovation of business models in a circular logic, innovative research in the textile field, biomimicry applied to materials, technology applied to recycling and 'upcycling, reshoring, the enhancement of the manufacturing tradition of the territory are content values intended to renew the old production systems, giving new</p>
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	<p>The sustainability of materials and processes: fibres, fabrics and raw materials used in the textile industry, their life cycle and the environmental impact of production and processing. Analysis of statistical data on the consumption trends of world demand.</p> <p>The control of processes along the entire supply chain to protect the environment and the health of consumers. Good natural fibres and bad synthetic fibres: let's debunk a cliché. The role of innovation and the materials of the future: biodegradable polyester, biopolymers and biomaterials.</p> <p><b>Module 3 - ETHICS AND TRANSPARENCY: A COMPETITIVE ADVANTAGE</b></p> <p>The founding values of sustainable fashion: respect for the environment, people and work through an assumption of responsibility.</p> <p>The issue of ethics in its complexity: the traceability of the supply chain, the opportunities and risks of blockchain technology, certifications, relocation and reshoring, the working conditions of workers and their contracts, the new European legislative context, the management of supply chain with a view to sustainability and the assessment of</p>	<p>impetus to a manufacturing sector capable of communicating with a new generation of consumers and intercepting their needs and desires.</p>
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	<p>the environmental and social impact along the entire supply chain.</p> <p><b>Module 4 - DESIGN AFTER DESIGN</b>  The aims of the new design in the culture of sustainable fashion: not only aesthetic result and functionality but also awareness of the duration, maintenance and environmental impact of production. The affirmation of digital manufacturing technologies and the active involvement of conscious consumers in the creation of business models alternative to mass production.  On-demand production with company figures aware of new technological opportunities: from smart fabrics to parametric 3D printing.</p> <p><b>Module 5 - REUSE, REPAIR, RECYCLE</b>  The complex issue of recycling: definitions of recycling, downcycling and upcycling.  The current limits of recycling and new technological experiments.  The waste problem: from the linear system to the circular system; fashion recycling trends, zero waste design.</p>	
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	<p>The need for a systemic approach and partnerships at the local level: the case of the Prato district.</p> <p>The fundamental role of design in the design of durable, repairable and recyclable products is in creating new garments and accessories from scraps, used clothing and waste.</p> <p><b>Module 6 - MADE IN ITALY BETWEEN HERITAGE AND INNOVATION</b></p> <p>The importance of the manufacturing tradition of Made in Italy in the fashion and textile sector. Heritage and Design: cultural identity as a narrative vehicle. The recovery of company archives as a strategic element for Italian companies in the fashion sector.</p> <p>The Italian textile-manufacturing districts that give competitive value to their heritage. The virtuous supply chains of the Italian districts.</p> <p><b>Module 7 - THE NEW LANGUAGES OF SUSTAINABLE FASHION</b></p> <p>The communication of sustainable fashion: analysis of language and images in the media and social platforms. Marketing and greenwashing: the obligation of</p>	
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	<p>transparency. From customer to stakeholder: communication to the responsible consumer. The competitive advantage of conscious fashion brands in the transparent communication of virtuous and ethical practices.</p> <p>Respect for sources, awareness of the cultural provenance of visual languages, ethics of cultural appropriation and transparency of communication.</p> <p>The places of commerce, in the methods and materials of the retail outlets.</p>	
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### *7.2.2. Academic Education*

NAME AND LINK TO THE ACADEMIC COURSE	OBJECTIVES AND TOPICS	COMPETENCIES ACQUIRED AFTER THE COMPLETION OF THE COURSE
<a href="#">Second level Master's Degree in Fashion Direction: product</a>	<p><b>WARM UP</b> • 40 hours</p> <p>Educational activities aimed at providing an instrumental and basic training, through the learning of tools,</p>	<p>The Master has the objective of training a professional figure with a strong knowledge of</p>



<a href="#"><u>sustainability management</u></a>	<p>techniques, methodologies and the use of specific software and applications,. These activities enable participants to fill the eventual gaps with reference to the background studies they carried out previously.</p> <p><b>QUANTITATIVE TOOLS &amp; PROJECTS TOOLS • 20 hours</b> Lessons aimed at acquiring quantitative and design tools, through the use of Excel, Indesign and Photoshop softwares too. These instruments will be preparatory to the understanding of the processes that characterise fashion companies as well as contents of specialised courses, according to the specific Master. Educational activities include basic lessons and advanced training in relation to the background of the student.</p> <p><b>FASHION PILLARS • 140 hours</b> Didactical activities of introduction to the knowledge of the fashion industry, from its historical evolution and historical criticism, to the predominant organisational models, from the main products' typologies and the instruments necessary to explore and know the fashion market, and finally up to the techniques of project management: carried out through theoretical lectures,</p>	<p>environmental, economic, social and productive sustainability that will characterise the luxury fashion sector.</p> <p>The professional figures trained are therefore junior profiles able to guide the creation and management of a product-service / system by operating in accordance with the Design, Marketing and Production figures present in the company as well as being able to support the CSR manager in the activities related to the actions pursued with a view to corporate sustainability.</p>
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	<p>seminars and exercises. Each module has a final assessment exam, through a written test or a presentation of a project</p> <p><b>FASHION PROCESSES • 180 hours</b> Educational activities aimed at the formation of specific competences in managing key processes identified by the three functional and professional areas of the master. They are carried out through lectures and direct testimony from professionals and each module has a final assessment exam through a written test or the presentation of a project by the students.</p> <p><b>CURIOSITY • 30 hours</b> Hints about the cultural and social evolution of fashion, with in-depth and inter-disciplinary analysis over the most important Italian brands, the Italian fashion pipeline and with meetings with the most relevant professionals working in the industry.</p> <p><b>FASHION PRACTICES • 790 hours</b> Teaching activities aimed at the practical application of the skills previously learned, inside business</p>	
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	<p>environments and real case studies. They consist of: field project, empowerment &amp; career management, company visits, curricular internship.</p> <p><b>FIELD PROJECTS • 278 hours</b> Educational activities aimed at field testing the competences and skills learned during the previous courses, through team-projects that involve groups of students working on real case studies agreed with companies, performed in the classroom with the supervision of teachers and tutors and companies are strongly involved in the initial brief and final evaluation.</p>	
<a href="#"><u>Second level Master's Degree in Fashion Sustainability &amp; Industry Evolution</u></a>	<p><b>SOCIOLOGY OF CULTURAL PROCESSES</b> (and the communicational and social perception effects of the theme of sustainability).</p> <p><b>HISTORY OF FASHION</b>, to analyse recent history and the protagonists and pioneers of this theme.</p> <p><b>TYPE OF MATERIALS</b>, which is of decisive importance in providing, both for clothing and accessories, technical and formal information on fibres, materials and production processes.</p>	<p>The main learning objective of this course is to design new professional figures aware of responsible innovation processes across the economic, environmental and social fields.</p> <p>At the end of the Academic in Fashion Sustainability &amp; Industry Evolution, participants</p>



	<p><b>THE CULTURE OF FASHION MATERIALS</b> offers technical and theoretical skills on the culture of sustainable materials (with particular reference to eco design) and consists of lectures with exercises aimed at settling the contents on display.</p> <p><b>DESIGN SYSTEM</b> investigates the project area by working on innovation in process improvement, on the construction of a circular model and design of sustainable supply chain processes for a company.</p> <p><b>THE DESIGN OF PROFESSIONALISM</b> integrates the skills acquired while others are more relevant to economic and market processes, providing additional important tools for understanding corporate culture.</p>	<p>will be able to pursue a professional career in fashion companies in CSR (Corporate Social Responsibility) and in the supply chain, they will also be able to deal with responsible innovation and operate as consultants on a global level.</p>
<a href="#"><u>Second level master's degree in Sustainable Fashion</u></a>	<p>The Master in Sustainable Fashion is composed of three main areas:</p> <p><b>BRAND MANAGEMENT &amp; FASHION SUSTAINABILITY</b>, encompassing fashion sociology, sustainable fashion business models, sustainable design strategies, cause-</p>	<p>Sustainable Fashion opens the doors to job roles such as Sustainability Managers, Circular Economy Managers, Diversity Managers, Ethical Trade Managers, Sustainable Business Managers, Supply</p>



	<p>related marketing, corporate social responsibility and fashion leadership;</p> <p><b>SUSTAINABLE PRODUCTION</b>, including new materials, production technologies, value chain management, suppliers and innovative textiles</p> <p><b>GLOBAL ECONOMY</b>, diving into new trends, transparent corporate communications, digital transformation, future consumer behaviour &amp; lifestyles, diversity &amp; inclusion management, global market ethics, sustainable businesses and start-ups.</p> <p>This intensive specialisation program is run by resident teachers from the industry with the direct involvement of international professionals. International guest lectures and two field trips to production sites are part of the program. Two main projects, a Midterm Project and a Final Project, can become part of the portfolio students present when applying for internship and job opportunities.</p>	<p>Chain Directors, Corporate Social Responsibility Managers, Social Activists and Fashion Writers.</p>
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### 7.3. Romania

#### 7.3.1. VET Education

NAME AND LINK TO THE VET COURSE	OBJECTIVES AND TOPICS	COMPETENCIES ACQUIRED AFTER THE COMPLETION OF THE COURSE
<a href="#">"Salomeia Truta" Fashion Institute</a>	The Institute offers multiple courses for adults, as well as children. These include a fashion design course, a pattern making course, a tailoring course for men and women and a styling course.	The Institute of Fashion offers comprehensive, qualified courses into all the topics relevant for a fashion designer, tailor or stylist. Some of the courses also include lessons about the types of fabrics and



	<p><b>Fashion design:</b> fashion illustration, artistic anatomy, colour theory, technical drawings, costume history, collection making</p> <p><b>Patternmaking (manual and digital):</b> 5 types of basic patterns, pattern modifications and transformations, pattern grading, Gemeni CAD</p> <p><b>Sewing &amp; Tailoring:</b> fibre and material types, types of manual and automated stitching, measurements, 5 basic patterns, pattern modifications</p> <p><b>Fashion styling:</b> colour theory, silhouettes, fashion styles, textures, weaves and knits, trends, staple clothing pieces, shopping, styling, makeup and hairstyling</p> <p><b>Didactical methods:</b></p> <ul style="list-style-type: none"> <li>- practical hands-on work in pattern making</li> <li>- applied work on own ideas and measurements</li> <li>- multiple variations of patterns</li> <li>- own collection development</li> <li>- collaboration with other students on projects</li> <li>- developing ideas croquis and designs from scratch</li> <li>- practical work taken step by step with appropriate guidance</li> </ul>	<p>fibres, therefore providing a more general understanding of materials to the students. As for pattern making, they have an innovative approach to this by teaching their students to work from scratch to their own measurements, rather than use pre-set templates, which offers them deeper understanding and flexibility. On another hand, the innovative approach also consists of teaching students to use the Gemeni CAD program for digital pattern making.</p>
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	<ul style="list-style-type: none"> <li>- final applied project at the end of each course</li> <li>- learning by doing</li> <li>- in-person teaching</li> </ul>	
<a href="#">Innovative design practices for achieving a new textile circular sector-Design4Circle</a>	<p>The course covers topics of sustainable textile design. It includes:</p> <p><b>Module 1 – Introduction to circular economy</b> Introduction to Circular Economy; Concepts and principles; Current state of policies addressing Circular Economy</p> <p><b>Module 2 - Sustainability challenges in the textile and fashion industry</b> Alarming trends in textile and leather industry; People health and safety; Waste, package and environment according to the national and EU regulations; Ethical production.</p> <p><b>Module 3: Materials For A Circular Economy</b> Sustainable textile and non-textile materials; Textile waste as raw material for upcycling; Recycled textiles</p> <p><b>Module 4: Design For A Circular Economy</b></p>	<ul style="list-style-type: none"> <li>- Understand the limits of the current linear economy</li> <li>- Understand the purpose of CE, and the rationale for applying the principles of Circular Economy</li> <li>- Understand the benefits of CE</li> <li>- Understand the current barriers associated with CE</li> <li>- Understand the general EU framework related to the implementation of Circular Economy</li> <li>- Being able to position CE within the sustainable development concept</li> <li>- To understand the product life cycle, eco-design fundamentals and principles of circular fashion</li> </ul>



	<p>Product life cycle, eco-design fundamentals; Eco-design principles</p> <p><b>Module 5: Manufacture for a Circular Economy</b>  Manufacture processes in fabric production; Manufacture processes in garment production; Environmentally friendly production; Clean technologies; Services to support long life</p> <p><b>Module 6: Recycling Technologies For A Circular Economy</b>  Textile recycling; Textile waste collection, sorting and preparation for recycling; Technology for textile recycling</p> <p><b>Module 7: Business Management In A Circular Economy</b>  Entrepreneurship and new business models for circular economy; Marketing and user-centred approaches; System thinking and networking; CSR; Sustainability performance indicators and guidelines</p> <p><b>Didactical methods:</b>  - online learning platform  - theoretical knowledge in the form of digital study manuals</p>	<ul style="list-style-type: none"> <li>- To promote an “environment friendly” view toward the entire lifecycle of the product</li> <li>- To understand the principles of zero waste design</li> <li>- To create the products using principles of the eco-design and circularity</li> <li>- Create durable and long-lasting products (products that can be repaired, modernised, reassembled, with a high value), using technologies and resources that do not harm environment</li> </ul> <p>Learners will understand:</p> <ul style="list-style-type: none"> <li>- The existing situation and challenges in the textile industry in EU and worldwide</li> <li>- Natural and technical cycles of matter and energy</li> <li>- Impact of CE to people health and safety</li> </ul>
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	<ul style="list-style-type: none"> <li>- self-study of additional resources</li> <li>- glossary of relevant terms for each module</li> <li>- final digital examinations for each module</li> <li>- presentation of numerous relevant examples</li> </ul>	<ul style="list-style-type: none"> <li>- How to supervise environmental practices of companies in order to comply with national and EU regulations</li> <li>- How to apply critical success actions and best practices in CSR on key topics and how to optimise the use of resources by circulating products and materials</li> <li>- Sustainable production processes for natural and man-made fibres</li> <li>- Clean technologies and advanced techniques for textile chemical processing</li> <li>- Non-conventional fibres and non-textiles from renewable resources and their applications</li> <li>- Understand the existing situation and challenges</li> </ul>
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		<p>in textile recycling, and to know textile recycling's technology</p> <ul style="list-style-type: none"> <li>- Understand what a business model and know how sustainable and circular business model can be defined and implemented</li> <li>- Understand the fundamentals of launching a circular economy business venture</li> </ul>
<a href="#">Circular Economy Innovative Skills in the Textile Sector – ECO TEX</a>	<p><b>Module 1: Sustainability management</b> Sustainability Definition and Policies; Sustainable Development (Business Models); Application of Certifications and Policies; Sustainability Assessment; Internal Sustainability</p> <p><b>Module 2: Environmental Performance</b> Environmental Performance Definition and Environment's Global Metrics; Environmental Performance Manufacturing and Remanufacturing Systems; Best Available Techniques (BAT) in the Textile sector; Textile's Environmental Assessment – examples; Environmental Legislation for the Textile sector</p>	<ul style="list-style-type: none"> <li>- Understands the basic sustainability concepts covering the Planet, People and Profit (3P) issues and the application of those concepts in textiles and clothing sector</li> <li>- Understands the definition and particularities of Sustainable Materials and Production</li> <li>- Understands the processes and regulations of business</li> </ul>





	<p><b>Module 3: Corporate Social Responsibility</b>          CSR Definition and scope; Fundamentals of CSR; Organisational culture and CSR; Implement and Evaluate CSR; Occupational Health and Safety Legislation in the Textile sector</p> <p><b>Module 4: Circular Economy</b>          Occupational Health and Safety Legislation in the Textile sector; Identification of Environmental Legislation for Waste Management; Circular Economy in the Textile sector; Eco Design; Circular Business Models for the Textile sector</p> <p><b>Didactical methods:</b></p> <ul style="list-style-type: none"> <li>- online teaching platform</li> <li>- video lessons with voice explanations</li> <li>- theoretical online lessons</li> <li>- many relevant examples from the field (case studies)</li> <li>- written digital study manuals</li> <li>- digital practice quizzes at the end of each unit</li> </ul>	<p>models in terms of sustainability; internalises all external costs; creates no toxic, or otherwise harmful, outputs</p> <ul style="list-style-type: none"> <li>- Understands the processes of environmental and social changes, applies regulations to prevent environment hazards and social problems</li> <li>- Understands principal causes of unsustainability, manages application of certifications and policies documents</li> <li>- Defines objectives and programs to improve the business sustainability performance</li> <li>- Understands and applies circles of sustainability: four domains model: economic domain associated with the production, use, and management of resources;</li> </ul>
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		ecological domain that occurs across the intersection between the social and the natural realms; political domain associated with basic issues of social power; cultural domain which, over time, expresses continuities and discontinuities of social meaning.
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### *7.3.2. Academic Education*



NAME AND LINK TO THE ACADEMIC COURSE	OBJECTIVES AND TOPICS	COMPETENCIES ACQUIRED AFTER THE COMPLETION OF THE COURSE
<p>"Aurel Vlaicu" University, Arad – Fashion Design 3-year Bachelor's study program</p>	<p><b>Fundamental courses include:</b> Art and costume history; artistic anatomy; study of drawing, colour, composition; 3D modelling; marketing and management; technological transposition; scenography; specialty technologies</p> <p><b>Specialty disciplines (to choose 12 out of 18) include:</b> Product design, graphic design, environmental design, ornamentation, composition, fashion illustration techniques, printing techniques, pedagogy, accessory and footwear design, eco-design, media design, lighting design</p> <p><b>Didactical methods:</b> - <b>Theoretical courses</b> (lecturing theory to students about a certain topic) - <b>Seminaries</b> (in-depth study and understanding of a certain topic combined with practical exercises/examples)</p>	<ul style="list-style-type: none"> <li>- Creation of products/ concepts based on performed research</li> <li>- Understanding the material components of the fashion product, its architecture and the relationship between the project and the product</li> <li>- Knowledge of the stages of technological flow and production</li> <li>- Understanding the size of the product system, and all the processes of product promotion, through communication techniques</li> <li>- The designer will think of the clothing product as a three-dimensional space belonging to the physical body, as an</li> </ul>



	<p>- <b>Laboratories</b> (practical work of the student with the teacher's guidance)</p>	<p>object characterised by functions of use, while integrating symbolic and cultural values into the product</p> <ul style="list-style-type: none"> <li>- The ability to work in different phases within a research project, such as the elaboration and definition of the lines and tendencies of a collection, the technical development of the product, up to the product management</li> </ul>
<p>"Gheorghe Asachi" Technical University of Iasi -Clothing design and modelling 2-year Master's program</p>	<p><b>In-depth courses include:</b> Functional structuring of products, constructive design of clothing, CAD systems for textile manufacturing, advanced technologies for ready-made clothes, costume composition, product design</p> <p><b>Synthesis courses include:</b> Fashion shape modelling, the fashion industry, quality certification in garments, project management, clothing lifecycle, entrepreneurship, sustainability in fashion</p> <p><b>Didactical methods:</b></p>	<ul style="list-style-type: none"> <li>- Interpreting new market trends and translating them into technical solutions for constructive design</li> <li>- Approaching the design and manufacture of clothing products with particular functions</li> <li>- Addressing the ever-emerging challenges of the market</li> </ul>



	<ul style="list-style-type: none"> <li>- <b>Theoretical courses</b> (lecturing theory to students about a certain topic)</li> <li>- <b>Laboratories</b> (practical work of the student with the teacher's guidance)</li> <li>- <b>Practical project</b> (individual applied, practical assignments in the form of projects) – a strong focus in this course</li> </ul>	<ul style="list-style-type: none"> <li>- The ability to keep up with innovations in the fashion and textile sector</li> <li>- Starting and managing a business in the fashion and textile sector</li> </ul>
<p>"Gheorghe Asachi" Technical University of Iasi - Eco-design in Textile Finishing 2-year Master's program (in English)</p>	<p><b>Domain disciplines include:</b> Advanced textile polymers, functional textiles, textile quality management, design and colour elements, modern methods of textile investigation</p> <p><b>Specialty studies include:</b> Biotechnological processes in textile finishing, ecotoxicology of textile finishing, specialty technologies and machinery, performance pigments, surfactants and colourants, digital textile printing, practical internship</p> <p><b>Complementary disciplines:</b> Cybermarketing and e-commerce</p> <p><b>Didactical methods:</b></p>	<ul style="list-style-type: none"> <li>- Create environmentally friendly textile technologies and products</li> <li>- Creation of innovative, inspiring and high performing technologies and materials</li> <li>- Change of the old technologies with new, non-polluting ones</li> <li>- Knowledge about all the latest sustainable textile materials: organically produced versions of commonly used textile fibres, sustainable artificial fibres or the very new synthetic fibres derived from</li> </ul>



	<ul style="list-style-type: none"> <li>- <b>Theoretical courses</b> (lecturing theory to students about a certain topic)</li> <li>- <b>Seminaries</b> (in-depth study and understanding of a certain topic combined with practical exercises/examples)</li> <li>- <b>Laboratories</b> (practical work of the student with the teacher's guidance)</li> <li>- <b>Individual studies</b> (hours of individual study and research required for each student to carry out their projects)</li> <li>- <b>Practical internship</b> (working for a number of weeks/months in a company in the industry)</li> </ul>	<p>renewable resources, such as Polylactic acid fibres</p> <ul style="list-style-type: none"> <li>- Responsible with systematic reduction of product's exposure to current and anticipated future environmental compliance risks and liabilities</li> <li>- Development of innovative sustainable technology products and systems</li> <li>- Exploit and harness of new smart technologies for new business developments and opportunities in the field of textiles</li> </ul>
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## 7.4. Slovenia

### 7.4.1. VET Education



NAME AND LINK TO THE VET COURSE	OBJECTIVES AND TOPICS and - if relevant - innovative didactic methodologies used	COMPETENCIES ACQUIRED AFTER THE COMPLETION OF THE COURSE
<a href="#">Re Fashion Show 2012</a>	Encourage the public to prevent and reinforce the message of sustainability	<ul style="list-style-type: none"> <li>- Raising awareness on reuse</li> <li>- Lead by example: "zero waste"</li> </ul>
<a href="#">Products in the context of a preparation for re-use activity, implementation in re-use projects</a>	Raising awareness about better separate waste collection and waste prevention	<ul style="list-style-type: none"> <li>- Work together</li> <li>- Ensure that there is no more waste in nature and the surrounding area</li> <li>- Ensure that as many people as possible start thinking about Zero Waste alternatives</li> <li>- Ensure that less waste is produced</li> </ul>
<a href="#">Textile recycling workshop</a>	Making new clothes from the old ones	Encourage the reuse of already discarded textiles





#### *7.4.2. Academic Education*

NAME AND LINK TO THE ACADEMIC COURSE	OBJECTIVES AND TOPICS and - if relevant - innovative didactic methodologies used	COMPETENCIES ACQUIRED AFTER THE COMPLETION OF THE COURSE
Faculty of Natural Sciences and Engineering, Chair of Textile and Fashion Design	The perspective of the Slovenian textile and clothing industry is similar to the European one. For its future, the faculty is generally striving for a higher added value, high quality, cutting-edge design, creative products of	- Coherent mastery of core knowledge and integration of knowledge from different fields



<p><a href="#">LINK to the competencies</a></p> <p><a href="#">LINK to the curriculum</a></p>	<p>the future, intelligent textiles, etc. In addition to other measures, the objectives are closely linked to appropriate knowledge and skills of the workforce.</p>	<ul style="list-style-type: none"> <li>- Ability to analyse, synthesise and plan the entire textile and clothing design process</li> <li>- Ability to work independently in a creative and research capacity, building on a scientific, design and artistic background an awareness and sensibility</li> <li>- Ability to work on projects and to perform, present, exhibit and promote their design and artistic work</li> <li>- Ability to experiment and visually communicate different concepts of thought</li> <li>- Developed capacity for self-learning in their professional field</li> <li>- Ability to understand the interrelationship between technology and design</li> </ul>
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		<ul style="list-style-type: none"> <li>- Ability to understand artistic notation and its technological translation into textile products</li> <li>- Developed professional ethical and environmental responsibility</li> <li>- Ability to apply modern tools, skills and competences, particularly in the field of ICT technologies, in everyday life professional work</li> </ul>
<p>Faculty of Natural Sciences and Engineering, Chair of Textile</p> <p><a href="#">LINK to the competencies</a></p> <p><a href="#">LINK to the curriculum</a></p>	<p>The main objective of the Bachelor's programme in Textile is to train a professional who can manage the most technologically demanding processes in the textile and clothing industry, who will be able to design complex products and technological processes and at the same time acquire the appropriate basic scientific and professional knowledge to continue their education.</p>	<ul style="list-style-type: none"> <li>- Expertise acquired through the study of theoretical and methodological concepts</li> <li>- Ability to transfer and apply theoretical knowledge to practise</li> <li>- Problem solving, in particular by seeking new sources of knowledge and applying scientific methods</li> </ul>



		<ul style="list-style-type: none"><li>- Ability to experiment and visually communicate different visual and visual communication of concepts of thought</li><li>- Developed capacity for self-directed learning in their profession</li><li>- Initiative and independence in decision-making and management of the most complex the most challenging work</li><li>- Developed professional ethical and environmental responsibility</li><li>- Ability to use modern tools, skills and abilities, in particular with ICT technologies in their daily professional work</li></ul>
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<p><b>Faculty of Mechanical Engineering, Design And Textile Materials</b></p> <p><a href="#">LINK to the competencies</a></p> <p><a href="#">LINK to the curriculum</a></p>	<p>The aim of this programme is to teach students to be able to design complex products and technological processes. The faculty is aiming for a higher added value, high quality, cutting-edge design, creative products of the future, intelligent textiles, etc.</p>	<ul style="list-style-type: none"> <li>- Appropriate competences to be able to design textile products</li> <li>- Knowledge in the field of natural sciences, informatics, design, material science, ecology and knowledge of technological procedures and processes as well as good engineering practice</li> <li>- The programme ensures that graduates are more creative and innovative</li> <li>- Proficiency in research methods</li> <li>- Ability to relate the fundamentals of engineering economics and environmental protection issues to the issues of textile materials and engineering design in textiles,</li> </ul>
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		<ul style="list-style-type: none"><li>- Ability to analyse, synthesise and anticipate solutions and consequences</li><li>- Ability to work cooperatively and as part of a team during their studies</li></ul>
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