PR1. The characteristics of footwear design with respect to the three pillars of sustainability and circular economy principles

Report

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Chapter 1 - Background and context analysis

1.1. Introduction

This section presents the 'background and context analysis'. It is based on statistical data and trends about the characteristics of footwear design in Europe and Turkey. The background analysis will be centred around the three pillars of sustainability: economy, environment, and society, both within market and educational programmes, in the footwear industry.

The information is collected from various sources, in every partner country, such as: public and private sources (ministries, chambers, national institute of statistics, associations, trade unions and others), published literature, existing studies and reports, etc.

The presentation should reflect the current situation and the dynamics of market, practice, employment and education and depict the presence of the three sustainability pillars, within companies, market trends and educational programmes.

1.2. Statistics for Europe

1.2.1 **Portugal**

RECENT DEVELOPEMENTS

Portugal ranks among the world's top 20 leading footwear exporters and it the 9th largest exporter of leather footwear worldwide. Exports to Germany and France, which are the main markets for Portuguese footwear, among other European countries, have been falling until 2020, but have recovered in 2021. Imports remained stable and haven't changed compared to 2020. Most of the Portuguese imports come from.

INDUSTRY in 2021

Value: The Portuguese footwear industry was valued at 1.981 million USD in exports, ranking 13th worldwide, and 622 million USD in imports, ranking 39th.

Quantity: The production of footwear pairs in Portugal was 76 million of which the 69 million were exported, ranking 19th. The imports accounted for 45 million pairs, ranking 54th, while consumption was 52 million pairs, ranking 52nd.

MAIN TRADING PARTNERS

EXPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Germany	460	23	16.7	24
France	395	20	11.3	16
Netherlands	292	15	8.9	13
Spain	154	8	9.1	13
U.K.	122	6	4.2	6

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LAST 5 YEARS VARIATION - exports	%	MILLION USD
+ Germany	23	85
- Belgium	-37	-20
- UK	-17	-25
- Spain	-25	-52
- France	-15	-67

MAIN TRADING PARTNERS

IMPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Spain	241	39	18.2	40
France	64	10	4.8	11
Belgium	63	10	1.9	4
Germany	60	10	3.3	7
China	59	10	12.1	27

LAST 5 YEARS VARIATION - imports	%	MILLION USD
+ Germany	43	18
+ France	17	10
- Italy	-25	-14
- Netherlands	-30	-17
- Spain	-16	-45

TYPES OF FOOTWEAR TRADED in quantity

	EXPORTS	IMPORTS
waterproof	10%	2%
rubber + plastic	12%	35%
leather	67%	15%
textile	7%	43%
other	4%	5%

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MAIN PLAYERS

	TURNOVER Million USD	EMPLOYEES
ECCO'Let (Portugal) - Fábrica De Sapatos, Lda	93.3	1 144
Gabor Portugal - Indústria De Calçado, Lda	74.8	1 252
Sopropé - Organizações De Calçado, S.A.	57.9	587
Ara Shoes Portuguesa, Unipessoal, Lda	38.2	658
Rodiro - Fábrica De Calçado, S.A.	35.6	398

1.2.3. Greece

RECENT DEVELOPEMENTS

Last year Greek international footwear trade resumed the upward trend that the COVID-19 pandemic had interrupted in 2020, causing a contraction of the Greek economy. Greece records a consistent trade deficit in footwear of 400-500 million dollars, following a decrease in imports and exports by 20% and 31% accordingly, during 2020. Greece mostly imports rubber and plastic footwear from China and exports mostly to other European Countries.

INDUSTRY in 2021

Value: The Greek footwear industry was valued at 226 million USD in exports, ranking 40th worldwide, and 708 million USD in imports, ranking 33^{d}.

Quantity: The production of footwear pairs in Greece was 4 million, ranking 91th. The exports accounted for 69 million pairs, ranking 20th, while imports were 116 million pairs, ranking 28th. The consumption of footwear was 51 million pairs, ranking 54$^{th.}$

MAIN TRADING PARTNERS

EXPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Italy	53	23	24.2	35
Cyprus	35	15	1.7	2
Spain	23	10	13.7	20
Romania	22	10	0.8	1
Hungary	18	8	12.8	19

LAST 5 YEARS VARIATION - exports	%	MILLION USD
+ Italy	449	43
+ Spain	593	20
+ Hungary	-	17
+ Poland	-	11

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+ Romania	91	10

MAIN TRADING PARTNERS

IMPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
China	175	25	90.1	78
Italy	109	15	4.2	4
Belgium	109	15	4.2	4
Poland	64	9	1.4	1
Germany	63	9	2	2

LAST 5 YEARS VARIATION - imports	%	MILLION USD
+ Poland	-	62
+ China	48	56
+ Italy	56	39
+ Germany	129	36
- UK	-96	-18

TYPES OF FOOTWEAR TRADED in quantity

	EXPORTS	IMPORTS
waterproof	1%	2%
rubber + plastic	62%	53%
leather	2%	6%
textile	34%	34%
other	1%	5%

MAIN PLAYERS

	TURNOVER Million USD	EMPLOYEES
Adidas Hellas S.A.	132.7	253
Shop & Trade S.A,	55.9	268
Sarkk S.A.	44.1	323
Zancou Sgoes Ioannis Arg. Kourouniotis S.A.	18.2	432
Kaloutsikos S.A. Eisagoges Emporia Paragogi Ant	16.9	20

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1.2.4. Romania

RECENT DEVELOPEMENTS

Romania's footwear industry is one of the largest in the EU. The country's imports have been rapidly increasing and reached 886 million dollars in value, in 2021. Its exports, though, are declining, despite a small increase in 2021. In 2020 Romania's trade surplus stood at around 1 million dollars. That is leading Romania into a trade deficit. The main suppliers of Romania are Poland and Germany, while the country is mostly exporting to Italy.

INDUSTRY in 2021

Value: The Romanian footwear industry was valued at 826 million USD in exports, ranking 23^{d} worldwide, and 886 million USD in imports, ranking 37th.

Quantity: The production of footwear pairs in Romania was 14 million, ranking 55th. The exports accounted for 29 million pairs, ranking 28th, while imports were 66 million pairs, ranking 37th. The consumption was 51 million pairs, ranking 55$^{th.}$

MAIN TRADING PARTNERS

EXPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Italy	400	48	12.1	42
Austria	89	11	1.9	7
Germany	78	9	3	10
Hungary	60	7	3.1	11
Poland	43	5	1.4	5

LAST 5 YEARS VARIATION - exports	%	MILLION USD
+ Poland	495	36
+ Hungary	110	31
- Slovakia	-97	-51
- Austria	-51	-93
- Italy	-24	-128

MAIN TRADING PARTNERS

IMPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Poland	206	23	10.1	15
Germany	108	12	5.4	8
Italy	105	12	3.5	5
China	70	8	22.3	34

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Belgium	62	7	2.2	3

LAST 5 YEARS VARIATION - imports	**%**	**MILLION USD**
+ Poland	307	156
+ Germany	301	81
+ Belgium	295	46
+ Italy	75	45
- Slovakia	-88	-41

TYPES OF FOOTWEAR TRADED in quantity

	EXPORTS	**IMPORTS**
waterproof	2%	2%
rubber + plastic	19%	38%
leather	50%	17%
textile	22%	38%
other	7%	5%

MAIN PLAYERS

	TURNOVER Million USD	EMPLOYEES
Deichman SRL	75.8	535
Raffaello Shoes Factory SRL	62	650
Shoe Express S.A.	46	623
Otter-Distribution SRL	39.6	419
Ara Shoes Romania SRL	34.4	640

1.2.5. France

RECENT DEVELOPEMENTS

France is the 3d importer and 7th exporter worldwide. Its exports started declining in 2020, along with the country's imports, during the COVID-19 pandemic and only started to recover and returned to pre-pandemic levels in value during the 4th quarter of 2021. This led to a new historical high in value. The imports of France, though, did not have the same track. Italy and Germany are both the main exporters and importers of France.

INDUSTRY in 2021

Value: The French footwear industry was valued at 4.655 million USD in exports, ranking 7th worldwide, and 8.410 million USD in imports, ranking 3d.

Quantity: The production of footwear pairs in France was 16 million, ranking 48th. The exports accounted for 119 million pairs, ranking 14th, while imports were 435 million pairs, ranking 4th. The consumption was 331 million pairs, ranking 11th. .

MAIN TRADING PARTNERS

EXPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Italy	747	16	18.1	15
Germany	595	13	15.4	13
Spain	452	10	22.7	19
USA	288	8	1.8	2
Hong Kong	253	5	0.6	1

LAST 5 YEARS VARIATION - exports	%	MILLION USD
+ Italy	55	266
+ USA	115	208
+ China	378	151
+ Hong Kong	128	142
+ Germany	29	135

MAIN TRADING PARTNERS

IMPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Italy	1 825	22	36.1	8
Germany	1 218	14	43.2	10
China	1 019	12	164.5	38
Belgium	982	12	36.5	8
Netherlands	695	8	28.5	7

LAST 5 YEARS VARIATION - imports	%	MILLION USD
+ Italy	43	545
+ Germany	44	370

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+ Netherlands	44	212
+ Poland	530	118
- UK	-76	-204

TYPES OF FOOTWEAR TRADED in quantity

	EXPORTS	IMPORTS
waterproof	4%	2%
rubber + plastic	29%	36%
leather	23%	20%
textile	38%	35%
other	6%	7%

MAIN PLAYERS

	TURNOVER Million USD	EMPLOYEES
Societe Des Magasins Louis Vouiton – France	1 097.5	1 054
Courir France	475.4	1 816
Chaussea SAS	400.8	3 063
Spodis S.A.	373.9	1 000
Besson Chaussures	279.6	46

1.2.6. Italy

RECENT DEVELOPEMENTS

Italy holds one of the highest places of leaders of the footwear industry, especially in the leather category. 2020 proved to be a very difficult year for the Italian market. In 2021 its economy and footwear manufacturing industry partially recovered, following the collapse caused by the COVID-19 pandemic. The recovery is concentrated mainly on large international groups. The prices of raw materials and energy have increased causing many SMEs to fail to survive or still struggle.

INDUSTRY in 2021

Value: The Italian footwear industry was valued at 12160 million USD in exports, ranking 3^{d} worldwide, and 6071 million USD in imports, ranking 4th.

Quantity: The production of footwear pairs in Italy was 149 million, ranking 13th. The exports accounted for 202 million pairs, ranking 8th, while imports were 308 million pairs, ranking 7th. The consumption was 255 million pairs, ranking 15$^{th.}$.

MAIN TRADING PARTNERS

EXPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Switzerland	2 298	19	23.3	12
France	1 946	16	36.7	18
USA	1 255	10	179	8
Germany	1 194	10	28.9	14
China	497	4	3.5	2

LAST 5 YEARS VARIATION - exports	%	MILLION USD
+ Switzerland	104	1 172
+ France	34	492
+ China	92	237
+Poland	213	224
- UK	029	-188

MAIN TRADING PARTNERS

IMPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
China	1 018	17	109.5	36
France	724	12	19.8	6
Belgium	545	9	18.9	6
Netherlands	496	8	17.5	6
Germany	427	7	17.6	6

LAST 5 YEARS VARIATION - imports	%	MILLION USD
+ France	79	319
+ Germany	156	260
+ Belgium	29	124
+ Switzerland	120	113
+ China	11	99

TYPES OF FOOTWEAR TRADED in quantity

	EXPORTS	IMPORTS

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waterproof	7%	4%
rubber + plastic	26%	36%
leather	44%	27%
textile	20%	27%
other	3%	6%

MAIN PLAYERS

	TURNOVER Million USD	EMPLOYEES
Tod's SPA	1 045.4	2 075
Geox SPA	720.2	486
Salvatore Ferragamo SPA	639.3	919
Cosmo SPA	494.8	853
Compar SPA	286.9	1 717

1.2.7. Turkey

RECENT DEVELOPEMENTS

Turkey is one of the leading producers and exporters of footwear worldwide. The industry's activity is mainly concentrated in Istanbul, Izmir and Gaziantep. The competitiveness of the Turkish exports is a result of the value drop of the lira, which led to record exportation levels in 2021. On the contrary, imports stand on historically low levels, despite a slight recovery in 2021. According to the 2020 Turkish Ministry of Commerce, only a small amount (15%) of the production is done by hand while 70% is based on semi-mechanized production processes.

INDUSTRY in 2021

Value: The Turkish footwear industry was valued at 10020 million USD in exports, ranking 18th worldwide, and 545 million USD in imports, ranking 41st.

Quantity: The production of footwear pairs in Turkey was 547 million, ranking 6th. The exports accounted for 349 million pairs, ranking 4th, while imports were 28 million pairs, ranking 71st. The consumption was 226 million pairs, ranking 18$^{th.}$.

MAIN TRADING PARTNERS

EXPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
Russian Fed	78	8	5.1	1
Iraq	76	7	63.4	18
Spain	65	6	5.5	2
Germany	64	6	6.9	2
Romania	41	4	6.5	2

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LAST 5 YEARS VARIATION - exports	%	MILLION USD
+ Russian Fed	224	54
+ Spain	397	52
+ Israel	146	22
- Iran	-96	-27
- Saudi Arabia	-94	-35

MAIN TRADING PARTNERS

IMPORT MARKETS	MILLION USD	VALUE SHARE %	MILLION PAIRS	QUANTITY SHARE %
China	154	28	12.1	44
Vietnam	138	25	6.8	25
Italy	103	19	0.5	2
Indonesia	44	8	2.5	9
Spain	13	2	0.6	2

LAST 5 YEARS VARIATION - imports	%	MILLION USD
+ Italy	8	7
- Tunisia	-78	-6
- Vietnam	-17	-27
- Indonesia	-44	-34
- China	-39	-100

TYPES OF FOOTWEAR TRADED in quantity

	EXPORTS	IMPORTS
waterproof	1%	1%
rubber + plastic	49%	36%
leather	12%	15%
textile	30%	47%
other	8%	1%

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MAIN PLAYERS

	TURNOVER Million USD	EMPLOYEES
Flo Magazacilik Ve Pazarlama Anonim Sirketi	800.9	8 000
Deichmann Ayakkabicilik Sanayi Ve Ticaret Limited Sirketi	534.4	900
Ayakkabi Dunyasi Kundura Sanayi Ve Ticaret Anonim Sirketi	511.8	900
Landmark International Tekstil Ticaret Anonim Sirketi	182.6	395
Ziylan Ayakkabi Sanayi Ve Ticaret Anonim Sirketi	166.1	410

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Chapter 2 - Identifying existing training programmes targeted to footwear designers and start-ups

2.1 Introduction

This research aims at collecting relevant instruments and initiatives in the European Union which can be used to better understand the current needs and trends of traditional industries as they relate to increased product sustainability and environmental or social issues. This chapter, in particular, aims at identifying existing training programmes for designers and start-ups.

The information collected includes relevant High Education Institutions, such as universities, and other relevant renown training/education entities. The outline of the training programmes on footwear design, to designers and start-ups, is the result of an attentive analysis of the available training offer at international level, on holistic and multi-disciplinary design education approaches.

The research includes existing paradigms of cooperation between industry and education/training entities, internships and other activities related to footwear design education. The analysis of the relevant education/training offer took into consideration the facilities provided, namely the learning labs and fab labs, as well as aspects beyond the training/education – outside the classroom.

2.2 Methodology used on the research

The partners searched for information and collected data using existing resources at organizational, national, European, and worldwide level, such as: Articles and Scientific Publications; Textbooks; National and/or international studies and reports; Web resources; Regional/National Policies; Other indexed sources; partners network and clusters and social partners' network. For analysis and classification concerning relevance, criteria have been set-up and used accordingly.

2.2.1. Research Sources

For the research the following sources have been used:

- Skills4smart VET network - The Textile, Clothing, Leather and Footwear industries network on updated curricula and innovative learning methods to ensure key skills and knowledge for the future https://s4tclfblueprint.eu/community/vet-registry/. The Vet network has more than 280 entities and related courses which have been analysed according to specific criteria.
- Partners' network – references to education/training offer from the SHOEDES project partners, which was analysed in detail.

2.2.2. Criteria for analysis and classification

For analysis and classification concerning relevance, the following criteria have been set-up and used:

- **Program wideness:** if the program is able to respond to all designers' needs in terms of training / education.
- **Sustainability focus:** relevance for course that includes modules related to sustainability/circularity topic.
- **Footwear Design focus:** the research intends to identify training offer relevant for footwear designers and start-up, with specific focus on footwear design.

- **Internationalization Level:** related to the features the course includes in order to offer and international experience to the learner (language, documentation, location, internships, exchange, among other features).
- **Innovation in learning:** innovation in learning/training methods the courses address and the quality and innovative experience offered to the learner.
- **Facilities offered/available:** level of innovation/quality available to the learners, with the relevance for the fablabs / leaning factories.

2.3 The Designer's education needs

Footwear designers typically need knowledge of design principles, materials, technical development and production methods. They should also have strong sketching and computer-aided design (CAD) skills. Knowledge of fashion trends, ergonomics, and market research may also be important. Additionally, strong communication and project management skills are necessary for working with a team and overseeing the development of a product from concept to finished product.

Start-ups in the footwear design industry may need similar skills and knowledge as established companies, but they may also need additional skills and resources to navigate the challenges of starting a new business.

Some specific things that a footwear design start-up may need include:

- A strong and unique product concept: A clear and differentiated product vision is essential for any start-up, but particularly in the footwear industry, where there are many established players.
- Funding: Starting a footwear design business can be costly, so a start-up will likely need access to funding to cover expenses such as materials, equipment, and staff.
- Network: Having a good network of contacts in the industry can be invaluable for a start-up, as it can provide access to resources, advice, and potential customers.
- Marketing and sales strategy: A strong marketing and sales strategy is essential for any start-up, as it can help to generate interest in the product and drive sales.
- Flexibility and Adaptability: Starting a business is full of uncertainty, so being able to adapt to changing market conditions and customer needs is important for a footwear design start-up.
- Strong team: A strong team with a combination of skills and experience in design, production, marketing and sales will be beneficial for a footwear start-up.

2.4 Existing training programmes identified

In our research we contacted with a wide education/training offer at VET and High Education for footwear designers and start-ups worldwide. The curriculum and quality of the programs can vary significantly. Some of the most highly respected footwear design programs are offered at universities and fashion schools in Europe. These programs tend to have a strong focus on traditional design techniques, such as sketching and model making, as well as an emphasis on materials and production methods.

Some of the courses, especially those found in North America, trendy address on more modern and technology-focused approach, with a strong emphasis on computer-aided design (CAD) and digital prototyping

In Asia, the programs tend to have a more diverse approach, combining the traditional and modern techniques and cultural influences.

In Europe, a more multifaceted approach has been found, with relevance for the high-end and luxury product concept and marketing strategies, never forgetting the principals and the heritage of the more than ever valorised manuality, combined with digital manufacturing.

It was important to research different programs and compare the curriculum, faculty, and resources available to determine which one is the best fit for the SHOEDES goals and approach. Also, it's worth to mention that some of the best educational institutions in the world have online options of their courses as well.

In the annex section of this report, a set of 12 courses on footwear design at national, European, and worldwide level, selected from a wide range of training opportunities will be presented. All courses have at least 1 year duration, and present a holistic approach to the footwear design, sometimes including other fashion items in the perspective of “total look”. The presentation includes a description of the course, a description of the training/education institution providing the course, distinctive aspects comparing the existing offer and other information considered relevant for the description and analysis of the course.

More than what a comparative analysis that the wide list of courses may raise, it’s the value of inspiration that we must keep and potentiate.

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Chapter 3 - Identifying and summarizing sectoral reports and scholar papers dealing with skills anticipation, training needs and the various aspects of circular economy in the footwear industry

This section aims at collecting relevant reports and studies in Europe and Turkey, which can aid in better understanding the current skills and training needs, as well as trends of the footwear industry in these countries, in terms of sustainability.

The garment and footwear industry has one of the biggest environmental footprints and poses great risks for human health and society if its impacts are not managed carefully and effectively. At the same time, the complexity and opacity of the value chain makes it difficult to identify where such impacts occur and to devise necessary targeted actions. In the next decades, fast fashion trends, coupled with growing demand in emerging economies, are going to intensify the effects on the environment and human health of practices and processes, and on working conditions.

With much of the world under Covid-19-related restrictions through 2020 and 2021, the global fashion industry has faced exceptionally challenging conditions. But after nearly two years of disruption, the industry is beginning to hit its stride again. The pandemic has served to exacerbate inequalities in performance that have become a persistent theme over recent years. A small group of leading brands are equalling, and in some cases already surpassing, their pre-pandemic performance. This should not, however, be confused with a universal return to form. Large numbers of smaller companies will continue to struggle to create value.

The few brands that outperformed either played into the needs of the moment — comfort, outdoor activities and online shopping — or appealed to wealthier cohorts who were able to better weather the impacts of the crisis. Companies that couldn't align with these market features tended to struggle, and the list of casualties grew longer as the pandemic continued through 2021. The 'State of Fashion' report published by McKiney and Company (2021) identifies the "Super Winners" — the top 20 listed companies that appear to bounce back after the two years of pandemic related recession. However, the proportion of value destroyers (companies generating negative economic profit) in 2021 is reported to be higher than ever. Moreover, the losses of the bottom 80 percent in terms of value creation in 2021 more than offset the profits of the top 20 percent.

Projections speculate that discount and luxury fashion will continue to outperform the post pandemic landscape, as recovery will be uneven across value segments, and the mid-market will be squeezed. Still, with economic growth and consumer sentiment improving in some markets, and many shoppers looking to refresh their pandemic-era wardrobes, growth will be top of the agenda for many brands. The market environment, however, will remain complex with new challenges to address, amid logistical bottlenecks, manufacturing delays, high shipping costs and materials shortages leading to higher prices for customers.

Despite widespread operational disruptions, the pandemic has done little to slow down the megatrends reshaping the industry namely **environmental and social priorities and focusing more sharply on diversity, equity and inclusion** Many brands will push harder on **circular business models, greener materials and more sustainable technologie**s.

One breakthrough to support these initiatives is **blockchain**, which is the underlying technology for digital "**product passports**." These contain coded information that can add value, support supply chain transparency and ensure authentication — a significant advantage tackling counterfeiting and a way to increase transparency within supply chains.

Digital assets such as **non-fungible tokens (NFTs)**, gaming "skins" and **virtual fashion** will edge closer to the mainstream, with some brands expanding into the digital "**metaverse**."

Key actors in the industry have identified **traceability** and **transparency** of the value chain as a priority to increase consumers' trust, better manage resources and relations with business partners, combat counter weights and handle reputational risks, while supporting more responsible consumption and production patterns, circularity and inclusive progress, in line with the Sustainable Development Goals (SDG) 12 (Ensure sustainable consumption and production patterns) and 8 (Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all), of the United Nations Agenda for Sustainable Development.

In fact, many companies have a limited view of the network of business partners within their value chain and do not get the full story behind their products. Most can identify and track their immediate suppliers, but information is often lost about the suppliers of their suppliers. Considering that the value chain is global and fragmented, with at least 15 nodes between the production of raw materials to the end-user product, achieving progress is a complex issue. It requires the collaboration of all industry partners, the deployment of common approaches and reliable technical solutions in widely different environments.

Its value chains are both global and complex, with numerous stakeholders involved, driven by big retailers and traders, however constituted by an enormous amount of small and scattered production facilities all around the world (OECD 2017). Small brands making around half of the industry, are lacking the knowledge and resources to significantly improve their footprint. They also have little control over and transparency along their supply chains. Even when their intent is good, they lack the critical reach to effect change (BCG GFA 2017).

Important ingredients to mitigate sustainability risks and impacts in the sector, include:

1) Improving working conditions of employees in the raw material production and manufacturing stages, especially in the upstream segments of the value chain.

2) Improving the environmental footprint of products and production processes throughout the entire value chain, including aspects such as use, reuse and recycling, in line with a circular economy approach.

3) Moving consumers attitudes towards more intelligent and ethical consumption choices.

4) Ensuring that final consumers receive accurate and relevant information about the social, environmental and health risks and impacts of the apparel and footwear they buy.

One of the most important levers that the fashion industry can pull to reduce its environmental impact is closed-loop recycling, a system which is now starting to be rolled out at scale, promising to limit the extractive production of virgin raw materials and decrease textile waste. As these technologies mature, companies will need to embed them into the design phase of product development while adopting large-scale collection and sorting processes. Globally, the fashion industry is responsible for around 40 million tonnes of textile waste a year, most of which is either sent to landfill or incinerated. (Perry 2021) Textile production, meanwhile, consumes vast quantities of water, land and raw materials. Engaging in closed-loop recycling is seen as a critical opportunity to both reduce the extractive production of virgin raw materials and limit textile waste. Closed-loop systems recycle materials again and again, so that they theoretically remain in constant circulation.

Textile production is more resource depleting than many other sectors. In the European Union, for example, the textile sector is the fourth biggest consumer of primary raw materials and water (following food, housing and transport), (Jones 2020) while the industry's reliance on fossil fuel-based textiles like polyester only adds to the challenge.

Yet there are pockets of the global fashion industry that are starting to get serious about addressing these challenges at scale by working towards developing closed-loop recycling processes that have the potential to limit textile waste, reduce carbon footprints and partly upend fashion's extractive business model. (Jay 2020)

Currently, less than 10 percent of the global textile market consists of recycled materials,(Banerji et al. 2018) and this is largely the product of open-loop recycling using PET (polyethylene terephthalate)

bottle waste, which does not address the need to recycle materials from the fashion industry and has been criticised for breaking the well-established closed-loop process of recycling plastic bottles into other plastic bottles.(Berg & Magnus) If the industry is to reduce the volume of waste going to landfill and limit the extractive production of textiles, closed-loop recycling systems will be required at scale.

The shift to more closed-loop systems is underway, driven in part by regulatory efforts to support a circular economy, which aim to relieve some of the pain points relating to waste collection and sorting. The EU's Circular Economy Action Plan, scheduled for adoption in the third quarter of 2021, incorporates an objective to ensure circular economy principles are applied to textile manufacturing, products, consumption and waste management.(Berg 2020) Meanwhile, the EU's Waste Directive Framework requires countries to separate all textile waste by 2025, and several European nations have implemented extended producer responsibility schemes, making brands and retailers responsible for post-consumer waste and requiring financial contributions from producers for the collection, recycling and reuse of products.(Berg & Magnus 2020)

As income rises and as economic growth consolidates, those living in extreme poverty start to have access to new opportunities that allow them to escape that status and push down poverty levels. Reduced poverty, its causes and manifestations, has been on the political agendas, in September 2000 at the UN Millennium Summit, the world's leaders set it as a goal for the Millennium development agenda. According to UNESCO's definition, the international standard of extreme poverty is set at an income of less than 1.25 US dollars a day.

Some studies point to a reduction of people living in extreme poverty by 50% between 2010 and 2030. The drop in the number of those living in extreme poverty has been quite substantial in East Asia already, especially in China, where more than half its population was living below the poverty line (60.2%) in 1990. Combined demographic and economic growth performance in Asia, with an 11.4% growth during fiscal 2013, if we go further back to the beginning of 2009 (31st January) revenue generated in the Asia Pacific region reached 282.7 million euros, growing more than 350% in just 5 years to reach 1292.8 million euros by the end of January 2014.

That percentage declined dramatically in nine years reaching 35.6% in 1999, according to statistics made available by the United Nations. In a similar way, other developing countries are expected to follow the same route decreasing poverty levels, as their income rises.

Economic growth and increasing income will be an opportunity not only for those living under the poverty line but will also result in a growing middle class. According to a study presented by Ernst & Young, in 2009 there were 1.8 billion people considered middle class. By 2030 that number is expected to almost triple and reach 4.8 billion people, representing roughly 3 billion new consumers joining the middle class. As this number grows, purchasing power will tend to increase resulting in additional consumption, and even increment of savings.

The middle-class growth will be made at the expenses of the reduction of the number of poor people living in the planet, and projections seem to indicate that by 2030 most of the world's population will be part of the middle class, improving their status from a current situation in which the majority of the world's population is poor. The conjunction of the different elements of this scenario in developing and emerging countries, with the middle class growing while the number of people shifting poverty increases and the economy as a whole develops, result in huge additional consumption within the next few years, which makes these very important and attractive markets for companies and brands.

Demographic changes shape the type of goods that will be successful and desirable in the market. As the world population rapidly ages, the psychological, individual, and social value judgments that shape consumers' behaviours also change. Senior citizens value usability, reliability, and the adequate style of products and services, but that will tend to be complemented with concerns not to compromise lifestyle. These will create new business opportunities for companies focusing on products for older people, namely footwear.

Other businesses related to services aimed at older people or people with certain health limitations caused by ageing will continue to come forward and develop and footwear with specific characteristics aimed at reducing the impact of certain limitations will continue to expand at a fast rhythm.

On the other hand, as life expectancy increases and the population ages, the health industry will continue to evolve, and health related expenses met by governments and individuals will keep its increasing trajectory. As more people work in the health sector, such as doctors, nurses and other helping staff, requirements for specific shoes aimed at these occupations will continue to increase, creating new opportunities for the footwear industry.

A new demand for medical and therapeutic footwear emerges. Several types of footwear with characteristics focused on older people or patients with chronic disease states are in development and some items are already being marketed. These incorporate the specificities of such conditions.

With advancing age, there is a tendency for the foot to show increased soft tissue stiffness, decreased strength and range of motion and a more pronated posture. A pronated foot, for example, has more weight on the inside edge of the foot, which can give the appearance of the ankles bending slightly toward each other. This changed shape of the feet would require a different fit of shoes. Specialist, medical products will continue to be developed as the older age group continues to flourish, and some will evolve from niche orientated businesses to have a broader reach; however, some issues will need to be addressed.

One is the problem associated with the image of medical or therapeutic footwear, as there might be some resistance or reluctance showed by patients, especially women, to wear it because of its unattractive appearance and associated stigma. This however, creates new opportunities for companies to develop products that managed to gather medical characteristics with elements of style and design.

Another problem results from the necessity to have a prior clinical evaluation within scientifically acceptable conditions in order to ensure doctors can clearly recommend certain medical shoes, and this is what is missing in many brands with products claiming therapeutic or health benefits. One element that might compensate this is the increasing public scrutiny with individual consumers and organisations actively seeking information about the products available.

To sum up, the changing global landscape poses many threats and opportunities for the footwear sector. The adoption of sustainable materials and circular economy principles create the need for new ways of designing, producing and communicating the environmental footprint of shoes. In addition, as the world is changing and aging new types of footwear become mainstream and desirable. The main findings of this section are summed up in the following bullets:

- Need to Increase transparency and traceability of the value chains
- Creation of circular, closed-loop recycling processes and materials
- Adoption of technology enable product passports
- Use of NFTs and digital fashion items
- Design for the emerging middle class in developing countries
- Inclusion of aging population in the design as the rising median age creating new market for footwear products

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Chapter 4 - Existing MOOCs and E-learning platforms

4.1. Introduction

Education and training are crucial to maintain and strengthen the competitiveness of European footwear companies because workers represent the main asset of the industry. The process of creating a shoe is complex and requires artistic and technical skills as well as specific know-how to combine craftsmanship with the opportunities brought by new technologies and digitalization.

A quality shoe undergoes numerous stages of production before it is completed. The exact number of operations involved can vary drastically but often go beyond 200, depending on the product, the selected production method and the tools used. In this relation, the process of shoe creation has changed over the years and alongside the master craftsman, new technologies and innovative processes support the manufacturing process.

In the case of footwear, there are **Moodle (Modular Object-Oriented Dynamic Learning Environment) and MOOCs (Massive Open Online Course)** courses developed by CEC together with other European partners participate in European Commission projects under the **ERASMUS+ program** supporting education, that can benefit from the implementation of the micro-credentials, like

- Sciled (https://sciled.eu/en/) Footwear in the 21st century: New skills for the design of drastically improved comfort, sustainable, fashion-oriented and scientifically-led footwear products.
- Skils4Smart TCLF 2030 (https://s4tclfblueprint.eu/), Blueprint (S4TCLF)- Enhancing the modernization and competitiveness of the European Union's Textile, Clothing, Leather and Footwear (TCLF) sectors.
- Knowledge4Foot (https://knowledge4foot.eu/).
- Fit2Com (https://www.fit2comfort.eu/).
- DiaShoe (https://diashoeproject.eu/) Digital Education for Diabetic Foot Control.
- DigitalFABLAB – Footwear virtual learning-by-doing. Transition from analogue practices to digital education.

In this section relevant MOOCs are presented in the tables below

Course *Title*:	**Step2Sustainability**
***Training provider*:**	CEC + EC through Erasmus + Project
***Website*:**	Step2sustainability.eu
***Type of program* (synchronous/asynchronous MOOC platform, other):**	Online training
***Entry requirements* (Qualifications):**	No entry qualifications
***Duration* OR *Time Demand* (per day/week or total):**	
***Detailed Learning Content* (Curriculum):**	An e-learning and training program on sustainable footwear manufacturing, which companies/workers can follow for free during the piloting period.
***Type of material* offered (text/multimedia):**	Text, videos, audio

***Key Learning Outcomes*:**	This innovative course will help footwear businesses adopt sustainable strategies and become more competitive.
***Type of Certification* offered:**	Micro-credentials
***Cost* (pls. specify amount & currency):**	Free during the pilot period
Other information, relevant to the SHOEDES project:	2014-2016 EU project

Course *Title*:	**MOOC 3D CAD FOOTWEAR DEVELOPER**
***Training provider*:**	S4TCLF EU Project ERASMUS +
***Website*:**	S4tclfblueprint.eu
***Type of program* (synchronous/asynchronous MOOC platform, other):**	MOOC
***Entry requirements* (Qualifications):**	It is advised that the designer has to know how these technologies work to be able to foresee right from the start how they can be used to manufacture the shoe model they are designing. Only then can one take advantage of what these new manufacturing techniques offer in terms of streamlined production, costs savings, sustainability, waste reduction, and increased added value for end customers.
***Duration* OR *Time Demand* (per day/week or total):**	
***Detailed Learning Content* (Curriculum):**	**The 3D CAD Footwear Developer curricula will therefore focus on teaching** students how to use these new digital solutions at every step of the process, from last creation to final prototype. The 3D CAD Footwear Developer MOOC (Massive Open Online Course) will be a vehicle to teach students about the contemporary process used to conceive, create and shape innovative shoes. The program is divided into 7 Units, each comprising 4 to 6 lessons. **The program is divided into ULO1- Footwear product design and styling process** Lesson 1 - Fashion Trends/Lesson 2 - Marketing and competition for the design process/Lesson 3 - Set-up and coordination of the Footwear Collection/Lesson 4 - Creative design and Collection development **ULO2- Overview on the specific footwear manufacturing stages and technology.** Lesson 1 - Company structure and organization/Lesson 2 - Types of footwear and their functionalities/Lesson 3 - Footwear materials and components/Lesson 4 - Footwear

	quality and testing/Lesson 5 - Footwear manufacturing overview **ULO3- 3D CAD Footwear Developer modelling and virtual prototyping** Lesson 1 – Digitisation of the last/Lesson 2 - Development of shell and pieces in the footwear virtual model/Lesson 3 - Development of accessories and components in the footwear virtual model/Lesson 4 - Development of materials and textures in the virtual model/Lesson 5 - Presentation of a realistic model by rendering and PBR. **ULO4- Footwear CAD 2D pattern engineering** Lesson 1 - CAD systems: from 3D to 2D/Lesson 2 - 2D pattern engineering/Lesson 3 - Grading and allowances/Lesson 4 - Nesting and consumption of materials/Lesson 5 - From pattern-making to production **ULO5- CAD 2D/3D Lasts** Lesson 1 - Data base of lasts/Lesson 2 - Creation of new lasts from previous last geometries/Lesson 3 - Last grading/Lesson 4 – Last measurements/Lesson 5 - 3D Printing and milling of lasts **ULO6- CAD 2D/3D Soles and Heels** Lesson 1 - Bottom components for footwear: insoles, soles and heels/Lesson 2 - 3D CAD of soles/Lesson 3 - 3D CAD of heels/Lesson 4 - Grading and obtaining the size series for bottom components/Lesson 5 - Moulds for soles or heels **ULO7- Rapid prototyping processes and technologies in footwear industry** Lesson 1 - Introduction. What is additive manufacturing (AM)? Application to footwear industry. /Lesson 2 - Rapid prototyping issues. How can I design for 3D printing? /Lesson 3 - AM technologies. What can I use? AM Technologies vs Industrial use. /Lesson 4 - Operating 3D printing equipment 7 Units, each comprising 4 to 6 lessons.
***Type of material* offered (text/multimedia):**	Online courses (text, audio& videos)
***Key Learning Outcomes*:**	The students will learn more about the contemporary process used to conceive, create and shape innovative shoes in a sustainable way.
***Type of Certification* offered:**	Micro-credentials
***Cost* (pls. specify amount & currency):**	Free pilot period
Other information, relevant to the SHOEDES project:	**Context**: Extensive research conducted by the project **S4TCLF** consortium with VET providers, Footwear companies, and technology experts in Europe has shown that Design and Patternmaking in the Footwear industry

	has been completely revolutionized by the emergence of new technologies, and digitalization in particular. New Computer-Aided Design (CAD) solutions have significantly changed the way designers and patternmakers operate by shifting the balance from 2D to 3D design and prototyping. These new solutions make work faster, more precise, more efficient and more sustainable.

Course *Title*:	Sciled
***Training provider*:**	SciLed Academy
***Website*:**	Sciled (https://sciled.eu/en/)
***Type of program* (synchronous/asynchronous MOOC platform, other):**	Moodle (Modular Object-Oriented Dynamic Learning Environment) SciLED Platform
***Entry requirements* (Qualifications):**	Targeting a mixed audience of academics/trainers, designers and technologists and managerial staff.
***Duration* OR *Time Demand* (per day/week or total):**	
***Detailed Learning Content* (Curriculum):**	This educational platform has four sections: • Footwear performance and comfort • Footwear sustainability • Footwear design engineering • Virtual Fab Lab The e-learning content is accessible through user and password-based registration (to create an account) at http://academy.sciled.eu/login/signup.php
***Type of material* offered (text/multimedia):**	The SciLED courses are presented in the audio&video lecture format, including additional training materials as course notes, videos and self-assignments/test quizzes.
***Key Learning Outcomes*:**	Learning on footwear performance & comfort through sustainable design process
***Type of Certification* offered:**	Micro-credentials
***Cost* (pls. specify amount & currency):**	
Other information, relevant to the SHOEDES project:	EU funding

Course *Title*:	DiaShoe
***Training provider*:**	EU
***Website*:**	https://diashoeproject.eu

Type of program **(synchronous/asynchronous MOOC platform, other):**	Digital based interactive open resources
Entry requirements **(Qualifications):**	Open
Duration **OR** ***Time Demand*** **(per day/week or total):**	
Detailed Learning Content **(Curriculum):**	**Digital Education Package for designers, footwear technicians, and product managers on footwear manufacturing for Diabetic Foot Control.** Digital Education Package for health technicians and shoe shop clerks Selfcare Digital Educational Package for Diabetic Foot Control
Type of material **offered (text/multimedia):**	Text audio & videos web-based material
Key Learning Outcomes**:**	Digital Education for Diabetic Foot Control The footwear manufacturers can learn improving/differentiating their products and offering footwear for people with special needs. **Develop new curricula for footwear professionals (designers, technicians, managers)** based on the current knowledge of the relationship between footwear and Diabetic Foot Control. The training offers a skills-building tool to guide shoe-shop clerks and health technicians on how to advise people with diabetes on their choice of footwear, based on their situation and/or medical prescriptions.
Type of Certification **offered:**	Micro-credentials
Cost **(pls. specify amount & currency):**	
Other information, relevant to the SHOEDES project:	EU funding ERASMUS +

Course *Title*:	Knowledge 4 footwear
Training provider**:**	EU
Website**:**	https://knowledge4foot.eu/
Type of program **(synchronous/asynchronous MOOC platform, other):**	MOODLE
Entry requirements **(Qualifications):**	Open to high educated students
Duration **OR** ***Time Demand*** **(per day/week or total):**	

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***Detailed Learning Content* (Curriculum):**	Knowledge Platform for Transferring Research and Innovation in Footwear Manufacturing
***Type of material* offered (text/multimedia):**	Text, audio, videos
***Key Learning Outcomes*:**	Help highly qualified professionals in footwear manufacturing with right mix of transversal and professional skills in order to boost the transfer of novelties coming from research and innovation in product, processes and services that provide added value.
***Type of Certification* offered:**	Micro-credentials
***Cost* (pls. specify amount & currency):**	
Other information, relevant to the SHOEDES project:	We bridge the world of Education, Research and Business! (slogan)

Course *Title*:	**Design4Circle**
***Training provider*:**	CE stakeholderEU / European Circular Economy Stakeholder Platform, Country Latvia
***Website*:**	https://design4circle.eu/
***Type of program* (synchronous/asynchronous MOOC platform, other):**	Online training
***Entry requirements* (Qualifications):**	Companies Researchers Startups Other (Employees from the textile and fashion industry (design or manufacturing sector); Managers of textiles and fashion companies; Students who attend courses in the field of textile and design).
***Duration* OR *Time Demand* (per day/week or total):**	70 hours of training (total)
***Detailed Learning Content* (Curriculum):**	To understand the necessary shift in the textile industry towards a more sustainable circular economy.
***Type of material* offered (text/multimedia):**	Text, videos, audio
***Key Learning Outcomes*:**	To understand the necessary shift in the textile industry towards a more sustainable circular economy
***Type of Certification* offered:**	Micro-credentials
***Cost* (pls. specify amount & currency):**	
Other information, relevant to the SHOEDES project:	Design4Circle: Circular Economy Design Training in the Textile, Fashion and Footwear

Course *Title*:	Fit2com
***Training provider*:**	

***Website*:**	https://www.fit2comfort.eu/
***Type of program* (synchronous/asynchronous MOOC platform, other):**	MOOC
***Entry requirements* (Qualifications):**	
***Duration* OR *Time Demand* (per day/week or total):**	
***Detailed Learning Content* (Curriculum):**	
***Type of material* offered (text/multimedia):**	
***Key Learning Outcomes*:**	
***Type of Certification* offered:**	
***Cost* (pls. specify amount & currency):**	
Other information, relevant to the SHOEDES project:	No access to the website

Course *Title*:	Design Circular Business Models
***Training provider*:**	Circulab Academy France
***Website*:**	https://circulab.academy/
***Type of program* (synchronous/asynchronous MOOC platform, other):**	15-hour, self-paced course
***Entry requirements* (Qualifications):**	This course is suitable for all professionals and individuals, from entrepreneurs to business owners and project managers, wanting to learn how to design resilient and profitable business models built on circular economy principles.
***Duration* OR *Time Demand* (per day/week or total):**	15 hours
***Detailed Learning Content* (Curriculum):**	How to design Circular design business models
***Type of material* offered (text/multimedia):**	All kind self-paced course with videos, text, multimedia within a platform
***Key Learning Outcomes*:**	The participants will learn the basics of business ecosystem design and how to put the circular design approach into practice.
***Type of Certification* offered:**	Certification
***Cost* (pls. specify amount & currency):**	

Other information, relevant to the SHOEDES project:	

Others

Course *Title*:	**Environmental Footprint trainings -** Webinars on the upcoming PEFCR for apparel & footwear
Training provider:	European Commission European Environmental Bureau
Website:	
Type of program (synchronous/asynchronous MOOC platform, other):	Online webinar through WEBEX
Entry requirements (Qualifications):	Open
Duration OR *Time Demand* (per day/week or total):	
Detailed Learning Content (Curriculum):	The first part will give a brief overview of the Environmental footprint and address questions such as: what a PEFCR is and what is it for, why it is important, and who can apply it. In the main part, kick-start information will be given to organizations planning to get engaged in the process or to implement a PEF study under this PEFCR. Sufficient time will also be given to a Q&A session.
Type of material offered (text/multimedia):	Text, audio, videos web-based material
Key Learning Outcomes:	Within the Environmental Footprint (EF) work, the Commission is organizing a webinar that will provide an overview of the PEFCR for Apparel and Footwear and give initial information to companies aiming at implementing PEF studies under this PEFCR.
Type of Certification offered:	Informative
Cost (pls. specify amount & currency):	
Other information, relevant to the SHOEDES project:	LCA analysis for footwear industry

Course Title:	Outdoor Softgoods Design & Development
***Training provider*:**	University Savoie Mont Blanc IUT Annency + Outdoor Sports Valley academy

***Website*:**	Outdoor Sports Valley http://www.outdoorsportsvalley.org OSV Academy http://www.osv-academy.org
***Type of program* (synchronous/asynchronous MOOC platform, other):**	License Outdoor Soft goods Design & Development (OSDD) Ex Performance Sports Textile & Footwear (PSTF)
***Entry requirements* (Qualifications):**	If you are an active sportsman/woman and if you have developed your decision-making skills through a 1 year scientific, technical or design, you can apply to the program
***Duration* OR *Time Demand* (per day/week or total):**	1 year
***Detailed Learning Content* (Curriculum):**	Programme LP - Outdoor softgoods design & development Semestre 5 UE501 Understand needs and context 9 credits Sport industry culture conf., visit, fairs 1 credits Sustainable development in the sports industry 2 credits Biomechanics & sports physiology : comfort & perf. 3 credits R&D product innovation in sports 2 credits UE502 Manufacturing and commercialization processes 13 credits Textile technical fundamentals 4 credits Quality, Tests and Lab evaluation 4 credits Footwear 2 credits Economic basics for technical textile 2 credits Industrial basics 2 credits UE503 Sport management and communication 8 credits Project management, methodology and tools 2 credits Product management 2 credits Product design 4 credits Professionnal communication 0 credits Languages optional LV2 0 credits Semestre 6 UE601 Group project 8 credits Group project 8 credits UE602 Design, manufacturing & sales processes mgmt 10 credits Design vision 1 credits Textile manufacturing 2 credits Accessories (backpack, gloves...) 1 credits Product development 3 credits Industrial fundamentals in sport industry 2 credits Product marketing in the sporting goods industry 1 credits UE603 Professional experience 12 credits Internship 12 credits
***Type of material* offered (text/multimedia):**	Text/multimedia videos
***Key Learning Outcomes*:**	The objective of the program is to provide the appropriate skills in the design and development of clothing, bags, textile accessories and footwear (R&D, design of products, textile economy)
***Type of Certification* offered:**	Credits ECTS 60
***Cost* (pls. specify amount & currency):**	
Other information, relevant to the SHOEDES project:	Just to notice the training is provided in English

Course *Title*:	Shoemaking courses
***Training provider*:**	Institut de Chambery and National Institut of Solar Energy
***Website*:**	GreenShoes4All
***Type of program* (synchronous/asynchronous MOOC platform, other):**	**Online Footwear Masterclass**
***Entry requirements* (Qualifications):**	No specific requirements
***Duration* OR *Time Demand* (per day/week or total):**	
***Detailed Learning Content* (Curriculum):**	Module 1 **85 LESSONS - VARIOUS STYLES:** Heeled Shoes Sneakers Sandals Platforms & Wedges Brogues, Darby's & Oxfords Custom Fitting & Comfort Considerations. Module 2 - bootmaking **70 LESSONS - VARIOUS STYLES** Lace-up boots Pull-on boots Zip-up boots High Heels Mid Heel FlatCustom Fitting & Comfort Considerations Module 3 - patternmaking **50 LESSONS**: The shoe & boot modules already include lessons on how to make patterns from scratch, this module goes into even more detail, giving you the skills to make your own original shoe patterns. Here you will also find a selection of ready-to-go downloadable patterns. Module 4 - join me live The first Tuesday of every month, Amanda goes LIVE inside its members community and demonstrate new techniques and take requests.
***Type of material* offered (text/multimedia):**	100 self-paced video lessons and LIVE demonstrations.
***Key Learning Outcomes*:**	Eco-design course: from environmental assessment to environmental improvement,
***Type of Certification* offered:**	Masterclass
***Cost* (pls. specify amount & currency):**	
Other information, relevant to the SHOEDES project:	

Chapter 5 - Identifying existing EU instruments/initiatives related to environmental issues and product sustainability for the traditional industries

5.1. Introduction

This section aims at identifying existing EU instruments/initiatives related to environmental issues and product sustainability for the traditional industries.

The EU has some of the world's highest environmental standards, developed over decades. Environment policy helps the EU economy become more environmentally friendly, protects Europe's natural resources, and safeguards the health and wellbeing of people living in the EU.

Environmental quality is central to our health, our economy and our well-being. However, it faces several serious challenges, not least those of climate change, unsustainable consumption and production, as well as various forms of pollution.

EU environmental policies and legislation protect natural habitats, keep air and water clean, ensure proper waste disposal, improve knowledge about toxic chemicals and help businesses move toward a sustainable economy.

On climate change, the EU formulates and implements climate policies and strategies, taking a leading role in international negotiations on climate. It is committed to ensuring the successful implementation of the Paris Agreement and implementing the EU's Emissions Trading System (EU ETS). In this regard, EU countries have agreed to meet various targets in the years to come. The EU seeks to ensure that climate concerns are taken on board in other policy areas (e.g. transport and energy) and also promotes low-carbon technologies and adaptation measures.

Sustainable development is an overarching objective for the EU, which is committed to a 'high level of protection and improvement of the quality of the environment' (Article 3 of the Treaty on European Union).

5.2. Overview of EU measures to make sustainable products the norm in the EU

On 30 March 2022, the Commission adopted a package of measures to make sustainable products the norm in the EU. The proposals are central to achieve the objectives of the European Green Deal, Europe's growth strategy to transform the EU into a fairer and more prosperous society and to implementing key strands of the 2020 Circular Economy Action Plan. They will contribute to reaching the EU's environmental and climate goals, doubling the circularity rate of material use and achieving energy efficiency targets by 2030.

The current economic model is still based on "take-make-replace." It depletes our resources, pollutes our environment, and damages biodiversity and climate. It also makes Europe dependent on resources from elsewhere. To address these problems, the EU aims to move to a more circular economy model based on more sustainable products.

Addressing the environmental impact of products throughout their life-cycle and extending their lifetime will lead to more sustainable, circular and more resource-efficient products in the EU. More sustainable products such as electronics, furniture and textiles will contribute to the resilience of the EU economy.

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Objectives

The Commission's initiatives on sustainable products aim to ensure that by 2030

- a significant part of the products on the EU market are designed to be more durable and energy- and resource efficient, reparable, recyclable, and with preference for recycled materials
- companies from all over the world are able to compete on a level playing field without being undercut by others that leave society to deal with their environmental damage
- consumers have access to the information they need to make more sustainable choices, are better protected against practices harmful to the green transition and have longer-lasting products
- companies can access the data they need to ensure environmental sustainability and circularity of their products and business models

Actions

Key EU actions for circular and sustainable products

- design to reduce products' environmental impact
- improve product sustainability information for consumers and supply chain actors
- prevent destruction of unsold consumer products
- promote more sustainable business models
- increase green public procurement

The proposed Eco-design for Sustainable Products Regulation is the cornerstone of the Commission's approach to more environmentally sustainable and circular products. It is based on, and will replace, the current Eco-design Directive 2009/125/EC, which drove improvements in energy efficiency and circularity of energy-related products for over a decade. Until this happens, the existing directive will continue to operate, including by implementing the new Eco-design and Energy Labelling Working Plan 2022-2024, also adopted on 30 March 2022.

5.3. Green Deal: New proposals to make sustainable products the norm and boost Europe's resource independence

Climate change and environmental degradation are an existential threat to Europe and the world. The European Green Deal is a package of policy initiatives, which aims to set the EU on the path to a green transition, with the ultimate goal of reaching climate neutrality by 2050. It supports the transformation of the EU into a fair and prosperous society with a modern and competitive economy. It underlines the need for a holistic and cross-sectoral approach in which all relevant policy areas contribute to the ultimate climate-related goal. The package includes initiatives covering the climate, the environment, energy, transport, industry, agriculture and sustainable finance – all of which are strongly interlinked.

The European Green Deal was launched by the Commission in December 2019 and the European Council noted it during its December meeting.

To overcome these challenges, the European Green Deal will transform the EU into a modern, resource-efficient and competitive economy, ensuring:

- no net emissions of greenhouse gases by 2050
- economic growth decoupled from resource use
- no person and no place left behind

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The European Green Deal is also our lifeline out of the COVID-19 pandemic. One third of the €1.8 trillion investments from the Next Generation EU Recovery Plan, and the EU's seven-year budget will finance the European Green Deal.

5.4. Putting an end to wasteful packaging, boosting reuse and recycling

The Commission has proposed new EU-wide rules on packaging, to tackle this constantly growing source of waste and consumer frustration. It also brings clarity to consumers and industry on biobased, compostable and biodegradable plastics and has adopted a proposal for a first EU-wide voluntary framework to reliably certify high-quality carbon removals.

On average, each European generates almost 180 kg of packaging waste per year and without any action this waste will increase to almost 215 kg by 2030. The new rules aim to stop this trend. They will ensure reusable packaging options, get rid of unnecessary packaging, limit overpackaging, and provide clear labels to support correct recycling, allowing consumers to have a clear overview.

The Commission also brings clarity to consumers and industry on biobased, compostable and biodegradable plastics. The proposals are key building blocks of the European Green Deal's Circular Economy Action Plan and its objective to make sustainable products the norm.

In addition, the Commission adopted a proposal for a first EU-wide voluntary framework to reliably certify high-quality carbon removals. The proposal will boost innovative carbon removal technologies and sustainable carbon farming solutions, and contribute to the EU's climate, environmental and zero-pollution goals. The proposed regulation will significantly improve the EU's capacity to quantify, monitor and verify carbon removals. Higher transparency will ensure trust from stakeholders and industry, and prevent greenwashing.

5.5. A New Industrial Strategy for Europe

The new Industrial Strategy for Europe will lead the twin green and digital transitions and become even more competitive globally. It will help industry to reduce their carbon footprint by providing affordable, clean technology solutions and by developing new business models. With the updated Strategy based on the lessons learnt from the COVID-19 pandemic the EU aims to ensure that European industry can lead the accelerated green and digital transitions.

The European Commission adopted a set of proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.[1]

Europe has always been the home of industry. For centuries, it has been a pioneer in industrial innovation and has helped improve the way people around the world produce, consume and do business. Based on a strong internal market, the European industry has long powered our economy, providing a stable living for millions and creating the social hubs around which our communities are built.

Throughout its long history, industry has proven its ability to lead change. And it must now do the same as Europe embarks on its transition towards climate neutrality and digital leadership in an ever-changing and ever more unpredictable world.

The twin ecological and digital transitions will affect every part of our economy, society and industry. They will require new technologies, with investment and innovation to match. They will create new products, services, markets and business models. They will shape new types of jobs that do not yet

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0102

exist which need skills that we do not yet have. And they will entail a shift from linear production to a circular economy.

These transitions will take place in a time of moving geopolitical plates which affect the nature of competition. The need for Europe to affirm its voice, uphold its values and fight for a level playing field is more important than ever. This is about Europe's sovereignty.

The breadth and depth, the scale and speed, the nature and necessity of the twin transitions are unprecedented. This is reflected in President von der Leyen's Political Guidelines, the priorities set out by the European Parliament and the European Council's Strategic Agenda 2019-2024. The European Green Deal 1 and the Commission's recent Strategy on Shaping Europe's Digital Future 2 set the ambition, speed and direction of travel for the years to come.

We now need a new industrial way for Europe, fit for the ambitions of today and the realities of tomorrow. At the heart of this is the ability of Europe's industry to lead the twin transitions and drive our competitiveness. It cannot afford to simply adapt – it must now become the accelerator and enabler of change and innovation. Our industrial policy must help make this ambition a reality.

Europe's industrial strategy must reflect our values and social market traditions. We will rely on our strengths: our diversity and talent, our values and way of life, our innovators and creators. We need a European industrial policy based on competition, open markets, world-leading research and technologies and a strong single market which brings down barriers and cuts red tape. And we must resist the simplistic temptations that come with protectionism or market distortions, while not being naïve in the face of unfair competition.

This strategy recognises the strength and the role of the European Union, primarily as an enabler and regulator. Setting the framework and providing political and policy direction is crucial to offer the certainty needed for investors, innovators and industry alike.

Our new industrial strategy is entrepreneurial in spirit and in action. The Commission is ready to co-design and co-create solutions with industry itself, as well as with social partners and all other stakeholders. This will be supported by a new focus on industrial ecosystems, taking into account all players within a value chain. This is our new approach and reflects the need for new ways of thinking and working to lead the twin transitions.

This strategy shows the direction of travel and the route we will take to get there. It lays out the vision of what we want to achieve by 2030 and beyond, and the fundamentals that will take us there. In times of transition and major change for our Union, one simple reality will remain the same: Europe will always be the home of industry. And with this strategy, the European Commission is ready to do what it takes to make sure it stays that way.

5.6. The European Raw Materials Alliance

The European Raw Materials Alliance (ERMA) was announced on 3 September 2020, as part of an Action Plan on Critical Raw Materials, and the publication of the 2020 List of Critical Raw Materials.

The Action Plan looks at the current and future challenges and proposes actions to reduce Europe's raw materials' dependency on third countries, diversifying supply from both primary and secondary sources and improving resource efficiency and circularity while promoting responsible sourcing worldwide.

The European Raw Materials Alliance aims to build resilience and strategic autonomy for Europe's rare earth and magnet value chains. It will identify barriers, opportunities and investment possibilities in the raw materials value chain, while also addressing sustainability and social impact.

Who can join and how?

The alliance is open to all relevant stakeholders, including industrial actors along the value chain, EU countries and regions, trade unions, civil society, research and technology organisations, investors and NGOs.

It will apply the principles of cooperation, inclusiveness and transparency and respect EU trade and competition rules. To join the alliance, an organisation must sign the declaration, committing it to the alliance's shared vision and to contributing to its operational work.

5.7. An Environmental Product Declaration (EPD)

What is an ..... E ..... P ..... D ..... (morse?)

An Environmental Product Declaration (EPD) transparently reports objective, comparable and third-party verified data about products and services' environmental performances from a lifecycle perspective.

Where the EPD is the final report, the foundation of any EPD is a life cycle assessment (LCA). This LCA allows you to evaluate your product’s environmental performance over its entire life cycle. It typically takes into consideration your full value chain, from material extraction to manufactured product, its usage stage and end of life.

5.8. Circular economy action plan

The European Commission adopted the new circular economy action plan (CEAP) in March 2020. It is one of the main building blocks of the European Green Deal, Europe’s new agenda for sustainable growth. The EU’s transition to a circular economy will reduce pressure on natural resources and will create sustainable growth and jobs. It is also a prerequisite to achieve the EU’s 2050 climate neutrality target and to halt biodiversity loss.

The new action plan announces initiatives along the entire life cycle of products. It targets how products are designed, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible.

It introduces legislative and non-legislative measures targeting areas where action at the EU level brings real added value.

Measures that will be introduced under the new action plan aim to

- make sustainable products the norm in the EU
- empower consumers and public buyers
- focus on the sectors that use most resources and where the potential for circularity is high such as: electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, food, water and nutrients
- ensure less waste
- make circularity work for people, regions and cities
- lead global efforts on circular economy

Chapter 6- Identifying existing EQFs and NQFs dealing with the occupation of footwear designer

6.1. Introduction

This section aims at identifying existing European and National Qualification Frameworks (EQF and NQF) relevant to footwear design. In addition, it includes the required job-related skills relevant for footwear designers and related occupations as they are described by ESCO (European Skills Competences and Qualifications) database.

The SHOEDES consortium addressed three steps methodology as follows:

- **Step 1** - Identify already existing job profiles or qualifications, addressing Footwear Designer and related occupations, according to the National Qualification Frameworks (NQF) in Turkey, Greece, Italy, Romania, France and Portugal. A description of the correspondent knowledge and skills/competencies are provided in ANNEX.
- **Step 2** - Desk research on already described skills/competencies for footwear designers and related occupations resulted from ESCO (European Skills Competences and Occupation) database.
- **Step 3** – Mapping a range of skills in design, sustainability and circular economy required by new career paths in footwear design that prioritise the environmental impact of products and promote health-consciousness and social awareness.

6.2. Qualification frameworks in SHOEDES partner countries

The European Qualification Framework (EQF) describes the learning outcomes for 8 qualification levels, a valuable tool for the mutual recognition of the skills and competencies related at the national level by the NQFs. The transparency and comparability of the qualifications obtained in different countries are thus ensured, which facilitates the mobility of the labour force and the portability of the qualifications obtained through learning means, study programs and professional training, both formal or informal, between companies in the same or various sectors of activity.

Using the description of a qualification based on Learning Outcomes (LO) indicates what a person knows, understands and is able to do on completion of an initial or continuous study program or vocational training. The EQF is closely linked to National Qualifications Frameworks (NQF), so it can provide a comprehensive map of all types and levels of qualifications in Europe, which are increasingly accessible through qualifications databases.

The EQF was established in 2008 and subsequently revised in 2017. The EQF revision retained its core objectives of creating transparency and mutual trust in Europe's qualifications landscape. The partner countries in the SHOEDES project (PT, TR, IT, FR, RO and GR) are among the member states that apply EQF principles to the development/adaptation/reconfiguration of national qualifications.

2021 was a reference year for the new development stage of EQF in Europe. Thirty-eight countries committed to the EQF are developing or implementing national qualifications frameworks mainly covering all levels and qualifications: the 27 Member States, Iceland, Liechtenstein, Norway, Switzerland, Albania, Bosnia and Herzegovina, Kosovo, North Macedonia, Montenegro, Serbia, Turkey. However, the link between EQF and NQF is at various stages all over Europe (see fig below): explorative, design, adoption, activating, operational, and review.

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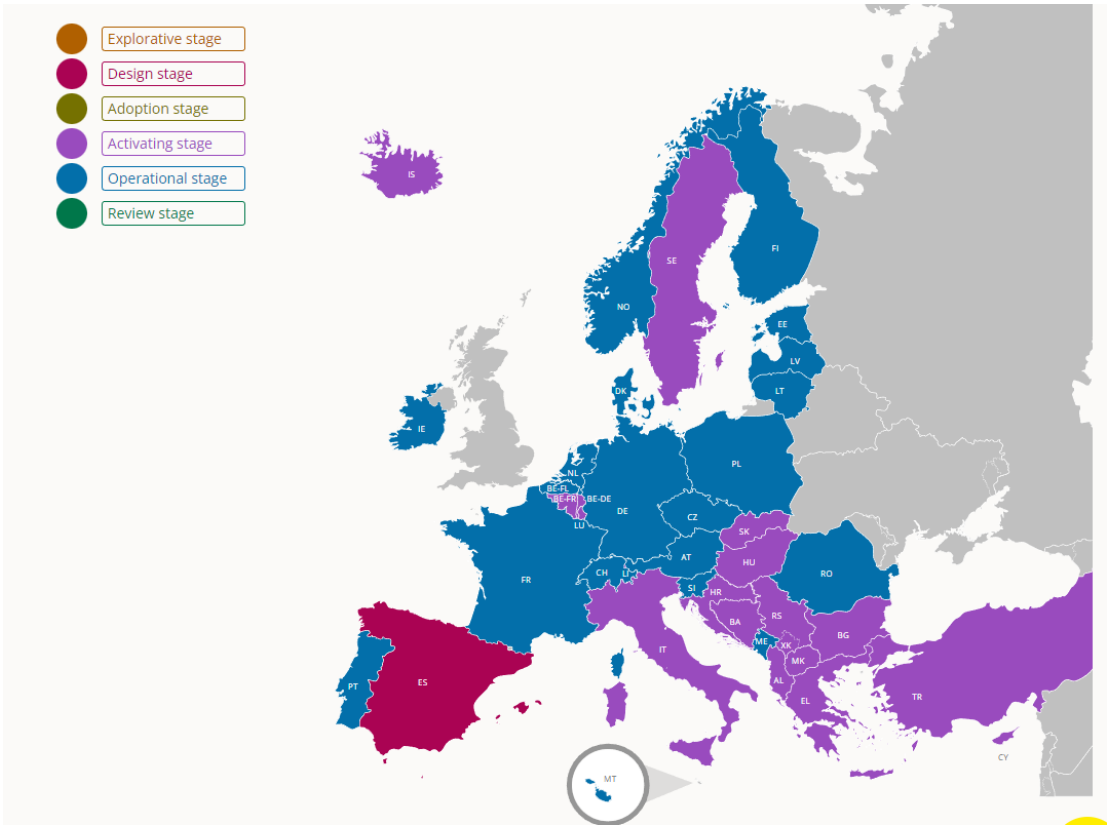

Map of the development stage in 2022 and link between NQFs and EQF across Europe (Source: https://www.cedefop.europa.eu/en/tools/nqfs-online-tool/countries)

The following table presents the overall progress in 2022 for the partner countries of the SHOEDES project.

Overall progress in EQF in 2022[2]	PT	IT	RO	FR	GR	TR
Cooperate on the EQF implementation	x	x	x	x	x	x
Have formally linked ('referenced') their national qualification systems or frameworks to the EQF	x	x	x	x	x	x
Have updated their referencing reports to the EQF			x	x		

Stages of development, including the legal basis, level of descriptors and the NQF/EQF website, are presented in the following table:

Country / Website	Stage	Legal basis	Level descriptors
Portugal https://anqep.gov.pt/np4/Instrumentos_do_Sistema_Nacional_de_Qualificacoes.html	Operational	Ministerial Order on the NQF (2009) (in Portuguese)	knowledge, skills, attitudes
Italy https://www.anpal.gov.it/eqf	Activating	Interministerial decree of the Ministry of Labour and Social Policies and the Ministry of Education, University and Research on the establishment of the NQF (2018) (in Italian)	knowledge, skills, autonomy and responsibility

[2] https://www.cedefop.europa.eu/en/tools/nqfs-online-tool

Romania http://www.anc.edu.ro/	Operational	Government decision 918/2013 on the approval of the NQF (2013) (in Romanian) Government decision 132/2018 amending and supplementing GD No 918/2013 in support of the NQF (2018) and harmonised with the 2017 EQF recommendation (in Romanian)	knowledge, skills, responsibility and autonomy
France https://www.francecompetences.fr/	Operational	Law No 2002-73 on social modernisation (2002) (in French) Law No 2018-771 for the freedom to choose one's professional future (2018) (in French) Decree No 2019-14 on the NQF of vocational and professional qualifications (2019) (in French)	complexity of knowledge, level of skills and know-how, degree of responsibility and autonomy
Greece https://www.eoppep.gr/index.php/en/qualifications-certification-en	Activating stage	Law on the development of lifelong learning and other provisions (3879/2010) (in Greek)	knowledge, skills, competence
Turkey https://www.tyc.gov.tr/	Activating	Regulation on the procedures and principles of its implementation (TQF Regulation) (2015, updated in 2019) (in Turkish) (in English) Regulation on the quality assurance of qualifications to be included in the Turkish qualifications framework (2018) (in Turkish) (in English)	knowledge, skills, competence

6.3. The footwear designer occupation reflected in NQFs

The dynamics of the labour market and the new skill requirements constitute relevant information for education and professional training providers. How society evolves, from macro and microeconomic perspectives related to the need for a digital and sustainable transition, generates new skills requirements and highlights the existence of several gaps between what the footwear industry expects from employees and what education providers offer.

For better compatibility of educational offers and the requirements of the labour market in footwear companies, the updating of traditional occupations, such as that of footwear designer or the introduction of new qualifications (Sustainable footwear developer, Footwear designer for circular economy, Footwear CAD developer, Eco-footwear designer, etc.), adaptations and reconfiguration of the national qualification frameworks are necessary. On the other hand, young people will be more attracted to occupations in traditional industries if these occupations meet the expectations of current generations regarding digitalisation and climate change.

An overview of qualifications related to footwear design is presented in the following sections:

In **Portugal,** the National Qualifications Agency (ANQEP) is the public regulatory body that certifies the training offer and manages the National Catalogue of Qualifications. Regarding footwear design, two qualifications were identified: *Footwear Patter Making Technician* – Level 4 NQF/EQF and

Footwear Designer – Level 5 NQF/EQF. For footwear design, there are no study programmes for High Education (HE) on EQF levels 6, 7, and 8 (Bachelor, Master, postgraduate) in Portugal, except the professional technical courses addressing HE provided by consortia of vocational education schools and research centres with universities.

In **Romania**, there are no qualifications named Footwear Designer for NQF/EQF levels 4 or 5. Furthermore, footwear design is only a module (unit of learning outcome) in the qualification of *Apparel Designer Technician* (NQF/EQF level 4). Typically, in Romanian footwear companies, the job activities related to footwear design are provided by employees having a university qualification (NQF/EQF levels 6 or 7). Therefore, TUIASI University has a Bachelor's study program titled *Footwear Design and Technology***,** followed by a Master's program titled Advanced Footwear Design and Technology. Both programs provide highly qualified professionals for the footwear industry per the requirements of the national occupational profiles.

In **Greece**, there is one school specialising in shoe design and production, the School of Shoe Desifn and Manufacturing. It goes with an equivalent training program for EQF level 3. Therefore, it provides several modules of courses for shoe design and production. The graduates are trained mainly in design and custom-made fashion shoes; some are becoming quite successful interested in continuing their family business (http://www.sxediasmosipodimaton.gr/index.html) There is also *Askardamykti school*, which goes with a training program equivalent with EQF level 4. The school provides one or two yearlong courses for shoe design and manufacturing, as well as independent seminars that focus on the design and manufacturing of specific shoe kinds. The students are mainly trained in the art of handcrafting shoes for fashion, complemented by generic fashion knowledge. The programs also include educational visits for the students to better get to know the materials and techniques used in Greek shoe manufacturing.

In **Italy,** the *Fashion Shoe Coordinator* has been identified as a highly specialised professional of EQF level 5. This professional operates with shoe fashion products, production processes and new technologies for "made in Italy", providing an essential response to the needs expressed by the most important Italian fashion companies. Another occupation of EQF level 5 is the *Footwear Pattern Maker*, a specialist who works effectively in the footwear design, pattern-making and prototyping department.

According to the National Qualification Institution database, there are no qualifications for footwear designers in **Turkey**. However, there are several qualifications addressing the footwear sector, such as: *Shoe Producer* (NQF ID: 1 3UMS0328-4), *Cutting Craftsman* (NQF ID: 18UMS0672-3) and *Upper-shoe Craftsman* (NQF ID: 13UMS0329-3).

In **France** there are several VET centers providing courses for footwear industry, such as: Lycée Polyvalent du Dauphiné, Lycée Polyvalent d'Alembert, Lycée de la Mode, Lycée Professionnel André Argouges, Lycée Professionnel Les Huisselets[3]

6.4. Skills/competencies for footwear designer and related occupations resulted from ESCO

During the desk research, the SHODES consortium consulted the European Skills Competences and Occupation (ESCO) database[4] , where Footwear Designers and similar labelled occupations are described, and skills/competencies are listed.

ESCO is an initiative of the European Union that started to be developed in 2012. Nowadays, European state members perform actions meant to update and harmonise the national catalogues or

[3] VET and HE Centres offering Footwear study programes, http://cec-footwearindustry.eu/our-network/where-to-study/

[4] https://ec.europa.eu/esco/portal/home

occupational standards to the identified and classified professional occupations, skills, and qualifications relevant to the EU labour market.

ESCO applies a similar definition of "**skill**" as the European Qualifications Framework (EQF), respectively NQF, which makes this tool operational across borders and among various education and training levels and providers. "**Knowledge"** is described as the "Outcome of the assimilation of information through learning" and the "Body of facts, principles, theories and practices that is related to a field of work or study"[5].

Moreover, ESCO supports National Qualifications Frameworks (NQFs) in adapting descriptions of various occupations based on learning outcomes (Knowledge, Skills and Competences). Also, education and training providers can annotate the descriptions of the learning outcomes with a terminology harmonised at the European level, integrating the concepts of knowledge, skills and competencies that correspond to the description of the learning outcomes of the qualifications, regardless of where (geographically) and from which organisation it was certificates of this qualification. This helps VET and HE organisations express their qualifications by learning outcomes in a way that makes it easier for labour market actors to understand and to attract learners from within and across borders[6].

Although France, Romania, Portugal, Turkey, Greece and Italy have different stages of integrating EQFs into the framework of national qualifications, there is a common architecture for profiles of Footwear Designers and related labelled occupations, according to ESCO, which will be described in the below sections.

Occupation	**Footwear Designer[7]**	**Footwear Patternmaker[8]**
ESCO Code	2163.1.3.2	7536.2.5
Description	Footwear designers perform fashion trends analysis, forecasting and market research, create footwear concepts and build collection lines by operating mood or concept boards, colour palettes, materials, drawings and sketches etc. They conduct the sampling process, make footwear prototypes and samples for presentations aimed to promoting the footwear concepts and collections. They identify the range of materials and components, define the design specifications by collaborating with the technical team and review the footwear samples, prototypes, and collections.	Footwear patternmakers design and cut patterns for all kinds of footwear using a variety of hand and simple machine tools. They check various nesting variants and perform material consumption estimation. Once the sample model has been approved for production, they produce series of patterns for range of footwear in different sizes.
Essential Skills&Competences	• develop footwear and leather goods marketing plans • reduce environmental impact of footwear manufacturing • develop footwear collection • perform market research in footwear • use communication techniques • use IT tools • create mood boards • innovate in footwear and leather goods industry • make technical drawings of fashion pieces • implement footwear marketing plan	• make technical drawings of fashion pieces • analyse types of footwear • work in manufacturing teams • create patterns for footwear

[5] Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning , https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:32008H0506(01)

[6] Chakroun B, Keevy, J., 2018, Digital credentialing: implications for the recognition of learning across borders, https://unesdoc.unesco.org/ark:/48223/pf0000264428

[7] ESCO - http://data.europa.eu/esco/occupation/06f89f2c-c6e9-40c5-a4a5-0e34d5fbc184

[8] ESCO- http://data.europa.eu/esco/occupation/93aa611c-a58c-43ff-bc34-6e201dfdd0dd

	• apply fashion trends to footwear and leather goods • create technical sketches for footwear • analyze types of footwear • communicate commercial and technical issues in foreign languages • work in textile manufacturing teams • create patterns for footwear	

Occupation	Footwear Product Developer[9]	Footwear Product Development Manager[10]
ESCO Code	3119.6	1223.2.1.2
Description	Footwear product developers provide interface between design and production. They engineer the footwear prototypes previously created by designers. They select, design or re-design lasts and footwear components, make patterns for uppers, linings and bottom components, and produce technical drawings for a various range of tools, e.g. cutting dies, mould, etc. They also produce and evaluate footwear prototypes, grade and produce sizing samples, perform required tests for samples and confirm the customer's qualitative and pricing constraints.	Footwear product development managers coordinate the footwear design and the product and collection development process in order to comply with design specifications, deadlines, strategic requirements and policies of the company. They track style development and review design specifications in order to meet the design vision, the manufacturing environment, and the company's financial goals.
Essential Skills&Competences	• use IT tools • create mood boards • distinguish fabrics • prepare footwear samples • apply fashion trends to footwear and leather goods • develop footwear collection • use CAD for soles • create solutions to problems • work in textile manufacturing teams • distinguish accessories • analyse types of footwear • create technical sketches for footwear • make technical drawings of fashion pieces • apply development process to footwear design • create patterns for footwear • reduce environmental impact of footwear manufacturing • use CAD for heels • use communication techniques • innovate in footwear and leather goods industry • implement footwear marketing plan • develop footwear and leather goods marketing plans • use CAD for lasts • communicate commercial and technical issues in foreign languages • perform market research in footwear	• prepare footwear samples • create patterns for footwear • reduce environmental impact of footwear manufacturing • develop footwear collection • work in textile manufacturing teams • perform market research in footwear • apply fashion trends to footwear and leather goods • apply development process to footwear design • make technical drawings of fashion pieces • innovate in footwear and leather goods industry • use IT tools • implement footwear marketing plan • communicate commercial and technical issues in foreign languages • exert a goal-oriented leadership role towards colleagues • plan supply chain logistics for footwear and leather goods • distinguish fabrics • create solutions to problems • use communication techniques • develop footwear and leather goods marketing plans

[9] ESCO - http://data.europa.eu/esco/occupation/1209b85e-80f1-490f-a7e1-6ad220bb956d

[10] ESCO - http://data.europa.eu/esco/occupation/ef6020f9-11b4-4d1a-96e0-903331594121

Occupation	Footwear 3D Developer[11]	Footwear CAD Patternmaker[12]
ESCO Code	7536.2.2	7536.2.3
Description	Footwear 3D developers design footwear models, make, adjust and modify patterns using computer aided design systems. They focus on the sustainable design of the model, the selection and design of lasts and components, the proper and efficient use of materials, the pattern making, the selection of the bottom and the elaboration of technical data sheets. They may supervise the development and evaluation of prototypes, the preparation of samples, the implementation of the necessary quality control tests on the samples, and the management of the technical documentation of the product.	Footwear CAD patternmakers design, adjust and modify patterns for all kinds of footwear using CAD systems. They check laying variants using nesting modules of the CAD system and material consumption. Once the sample model has been approved for production, these professionals make series of patterns (grading) to produce a range of the same footwear model in different sizes.
Essential Skills&Competences	• design 2D pattern for footwear 3D visualisation • create technical sketches for footwear • operate 2D CAD for footwear • analyse types of footwear • calculate purchasing levels of raw materials • render 3D images • create lasts for footwear • measure parts of manufactured products • create a product's virtual model • develop footwear collection • interpret 3D plans • create 3D CAD footwear prototypes	• create patterns for footwear • operate 2D CAD for footwear • analyse types of footwear • make technical drawings of fashion pieces • work in textile manufacturing teams • use IT tools

6.5. EQF definition for Footwear Designers and related occupations resulted from SCILED project [13]

The SCILED project contributed to the modernisation of Footwear Designer and Footwear Product Manager occupational profiles. The developed curriculum and educational package, with several necessary adjustments according to national qualifications frameworks, are subject to being integrated into the training and education systems of the five countries involved in the project: Romania, Portugal, Spain, Italy and Greece.

The SCILED consortium reviewed the skills and competencies of Footwear Designers and Product Managers and created European Qualification Framework (EQF) definitions for the new respective upgraded occupations in order to prepare them to develop drastically improved footwear regarding fashion, sustainability and comfort.

Relevant to the SHODES project are the new key activities and supportive skills necessary for a Footwear Designer occupation.

- Understand the consumer's requirements for comfort and sustainability
- Select materials based on comfort and sustainability criteria
- Monitor the compliance with sustainability requirements
- Analyse, create and/or organise 2D/3D footwear models
- Elaborate outstanding functional footwear designs
- Develop design specifications and tech pack
- Coordinate the Product Lifecycle Management (PLM) process

[11] ESCO- http://data.europa.eu/esco/occupation/40d76b2c-b917-4bf1-95b3-191f11472e67

[12] ESCO - http://data.europa.eu/esco/occupation/3fa9a480-ceb3-4c2a-8a91-0508e1bb6ba5

[13] SCILED - Footwear Designer and Product Manager EQF Definitions, http://sciled.eu/wp-content/uploads/2020/08/SciLED_WP4_D4.1_EQF-definition_FINAL_EN.pdf

- Interconnect the footwear product engineering systems
- Set the footwear product strategy towards sustainability and comfort
- Eco-design and the concept of Circular Economy (separation of components after the life cycle, recycling, etc.)
- Footwear manufacturing technical aspects
- Responsibilities in R&D&I projects
- Sourcing / procurement

Elaborated in 2021, the above-listed skills reflect the newest trends in footwear design from an engineering point of view, focusing on footwear performance, CAD tools and sustainability. However, the principles of circular economy are purely addressed. Also, the skills in aesthetics, styling, footwear fashion design and collection development were not addressed by the SCILED project.

Chapter 7 - Identifying existing grassroots innovations for community-based new or re-used materials in EU and Turkey

7.1 Introduction

One of today's main challenges is the reduction of the environmental impact of manufacturing processes: textiles is one of the sectors most involved in the reconfiguration initiatives of products and processes, not only from a technological point of view but also from a methodological and managerial point of view.

Fashion appears to be the fourth category of pressure on the environment for the use of raw materials and water (after food, housing, and transport), the second for land use (largely due to the cultivation of cotton) and the fifth for greenhouse gas emissions. Most of the impact linked to the production of clothing, footwear and textiles occurs in regions of the world other than Europe, where the pressure due to the consumption and disposal of products is significant. Mitigating the impact requires large-scale implementation of circular economy models supported by effective policies addressing materials and design, manufacturing, and distribution, use and re-use, collection and recycling: this includes green public procurement, eco-design, extended producer responsibility, labeling and standards.

7.2 Re-use of the materials in Europe

In Europe, citizens discard about 11 kg of textile materials per person per year: a very high value and correlated to the drop in the unit price of garments which, from 1996 to 2018, decreased by more than 30% compared to inflation. In this scenario, Fast Fashion models exacerbate the problem by promoting an increase in consumption, with a further reduction in the duration of clothing. At policy level, the European Union obliges Member States to collect textiles separately by 2025 and to ensure that the waste thus collected is not incinerated or thrown into landfills. The creation of systems for regeneration and reuse is also encouraged, to prevent waste, also extending the responsibility to producers. (EEA - European Environment Agency).

Often the axe of greenwashing is struck on the issue of sustainability. In fact, it is necessary to make distinctions and analyze the results achieved, and to be achieved by 2030, with the lens of objectivity and awareness that the process requires. Starting from the consideration relating to the creation of a classic pair of sneakers, in which up to 65 different components can be identified, or by analyzing fewer performing shoes for leisure time which in any case provide a substantial quantity, it is necessary to identify guidelines for rethinking production footwear in a circular and sustainable key. Currently, a major limitation is represented by legislation on sustainable production that is not very clear and above all not always shared by all EU countries. The issue of certifications is particularly delicate; an example is represented by the GRS (Global Recycle Standard) certification. The GRS is an international, voluntary, comprehensive product and supply chain standard that establishes requirements for third-party certification of recycled input, chain of custody, social and environmental practices, and chemical restrictions. The standards of this certification often do not tell us in a transparent way whether a pair of shoes produced are truly sustainable and can be reinserted into the production cycle at the end of their life, measuring only some 'sustainability parameters' as valid. Returning to the example of a sneaker, if a component is made with the peel of a fruit, for example,

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where the component represents 15% of the entire product, can declare that it is a sustainable and GRS certified shoe.

The artisan culture is inspired by the principles of sustainability, as it creates objects of the highest quality, made to last over time. A good starting point to make the whole sector more circular. In the panorama of footwear production in Italy, from the conception to the creation of shoes, passing through the entire supply chain, in recent years there has been a great revolution in terms of research and production of raw materials in a circular and sustainable key. Only big brands can develop at a high level and with the possibility of scalability, acting as a driver, but the research carried out by virtuous small companies and innovative start-ups that use their creativity to speed up the process and change should not be underestimated.

The craftsmen, designers and technicians of the sector are clamoring for the 2030 Agenda to work towards a clear and stringent regulation.

7.3 Innovations

Trends nowadays implemented in the footwear sector:

1. Innovative materials created from recycled and up-cycled materials in the future, new technologies in traditional to leather industries, collaborations with environmental experts and, above all, complete transparency of the entire supply chain - these are the main vectors for the development of the footwear industry today.

2. Materials from completely non-obvious raw materials also appear. So Swiss sports brand *On* has created a new foam called *CleanCloud* that transforms carbon emissions into a sole for running shoes.

3. Even if the brand does not use innovative and new environmentally friendly materials, it still has the opportunity to contribute to the conservation of the planet's environment. For example, like the Danish *ECCO*, by reducing the amount of water used in the leather manufacturing process.

4. Many leading brands, for example *adidas*, are not only directly involved in the development of new materials and eco-technologies, but also in consumer education, involving them in an eco-friendly lifestyle.

In the analysis of the European footwear manufacturing fabric, widespread and shared best practices can be identified.

The main ones analyzed and identified as new approaches to sustainability concerns different parts of shoes, namely:

- UPPER:

Chemistry is not to be demonized! We are often led to think that a product made of organic cotton (which % is vegetable and which % is the agglomerating agent?) rather than nylon is better. In both cases a distinction must be made.

- For organic cotton: in which % is the vegetable nature and in which % is the agglomerating agent?
- For nylon: with what % does it come from recycled material?

There are nylons that derive from 100% recycled material and can be reprocessed again, re-entering the supply chain as a secondary raw material. Furthermore, in terms of performance, nylon can be very breathable. On the contrary, if organic cotton is combined with a non-breathable lacquered lining, it decreases its natural transpiration power.
Therefore, in terms of sustainability, the choice to use only materials that derive from the recycling process can be a strategy that completely revolutionizes the footwear sector, especially the one dedicated to sports and leisure time, where an ever more performing product is required.

To impact as less as possible, it is important to change the vision: few materials, most of which are included in a circular supply chain. To be clear, 100% synthetic derived from recycled sources (or waste) has less impact than a product declared vegan or vegetable, where the presence of truly veg substances is very low (see GRS).

- SOLE: There are biodegradable soles and recycled soles where the material is recovered to be recycled again.
- LACES: there are recycled nylon.
- SLAB: agglomerates of waste materials, without the use of synthetic chemistry, but compostable. In this case you can have insoles 100% from waste materials, 80%, 70%, etc. In this case, the agglomerating agent makes the difference.
- PAPER: 100% recycled paper (FSC).
- TOE AND HEEL: in most cases it is made with chemical binders, such as acrylic glues. There are, also in this case, derivatives from 100% waste materials.
- LABELS: 100% recycled nylon.

The industry takes advantage of the regulatory gaps by declaring the production of shoes, for example, in 100% organic hemp. At the end of its life, when it is necessary to dispose of the components, what is declared 'compostable' in reality is not, for example if soiled with acrylic paint. The subject is very complex and the Regulations not very detailed. Denominations play a big role in favor of greenwashing.

7.4 Future steps for grassroots innovations

a) CHANGE OF STRATEGY

Many SMEs are grappling with a change of course towards a more conscious and sustainable business strategy.
Abandoning mass production, changing the distribution strategy, with more measured production and artisanal distribution. The quality level remains high, but any waste is drastically reduced, saving on raw materials and economic resources.
The purchase of raw materials, such as leather for example, takes place through companies that select and distribute excess production. Completely bypass the purchase in the tanneries, through personalized orders.
The waste of the uppers is totally recovered to produce small accessories, producing less, avoiding leaps on distribution projections that are often not met and avoiding stock, focusing on the real and effective order.

b) DETAILED KNOWLEDGE OF THE PRODUCTION CHAIN

Having an in-depth knowledge of all the steps and all the components that come into play in the production of footwear, be it sports or leather, increases awareness of individual choices.
Very often the same designers, who design entire collections for companies, do not have knowledge of new technologies, new materials in competition with traditional ones.
Sometimes there is a resistance to change in companies, especially those with a family footprint, which lengthens the reaction times towards important decisions in the change of course in a sustainable key. Knowledge is the basis of the change of pace.

c) TRAINING: SPECIALIZED WORKFORCE ON SUSTAINABILITY ISSUES

Training new generations of designer-craftsmen will help in sustainable production processes in the footwear field and in fashion in general.
Providing prompt and attentive preparation in the times of ecology, raising the qualification of the learners, increase collaboration between research institutions, designers, and leading companies in the sector, which act as drivers in the process.

Chapter 8 Inputs by experts, designers and students

8.1 Experts

QUESTIONNAIRE FOR EXPERTS

INTRODUCTION AND CONSENT

The SHODES project aims at promoting both lifelong learning and equal opportunities in the knowledge-based society, as well as the further integration of the European labour market for all relevant professionals. Following an innovative approach in terms of Project Results, the SHOEDES project will enrich an initiative of the Commission, namely ESCO (European Skills, Competences, Qualifications and Occupations). The project shall deliver a set of instruments for the existing and aspiring designers of the footwear industry to receive the most up-to-date and according to the anticipations of required skills and training needs knowledge and information in order to be able to design footwear for the circular economy under a holistic approach.

As part of this effort, SHOEDES is inviting footwear designers to participate in an anonymous survey that will help the partnership identify and address skills gaps and training needs pertaining to existing and new (aspiring) designers of the sector.

All of your responses will be kept strictly confidential. They will only be used for statistical purposes and will be reported only in aggregated form.

The survey will take around 10-15 minutes to complete.

If you have any questions about this survey, or you would like more information about the SHOEDES project, please contact <NAME OF NATIONAL CONTACT PERSON> at <email, telephone number>.

Would you like to receive news from our project (about one email per semester)?
_____ *Yes, my email address is* _____
_____ *No*

SECTION A - Background INFORMATION

First, please provide some background information about yourself.

1. **Please select the type of organisation you represent.**

- ☐ Higher Education Institute
- ☐ Training centre
- ☐ Research centre
- ☐ Private company
- ☐ Public organization
- ☐ NGO
- ☐ Other (*Please specify*: _____)

2. **Position in the organisation.**

- ☐ Head of University (Rector/ Vice Rector)

- ☐ Head of Faculty/ Department (*Please specify*:_____)
- ☐ Academic staff (Assistant, Lecturer, Associate Professor, Professor)
- ☐ Head of Research Centre
- ☐ Head of Department
- ☐ Researcher
- ☐ Trainer
- ☐ Consultant
- ☐ Other (*Please specify*: _____)

3. Highest educational qualification acquired

- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ PhD

4. Gender

- ☐ Male
- ☐ Female
- ☐ Unspecified

5. Age

- ☐ Under 25
- ☐ 25-39
- ☐ 40-59
- ☐ Over 60

SECTION B - models for new businesses and start-ups and actions for the design and development of sustainable footwear.

6. Have you participated in a cooperation between a footwear design company and an external organisation in the last 5 years?

- ☐ Yes
- ☐ No (*Please briefly explain the key reasons*: _____)

If you answered "*Yes*" for Q6, please continue to Q7. Otherwise, please skip to Q10.

7. Please indicate what type of cooperation has been developed *(Select all that apply)*

- ☐ Forecast of skills requirements for the labour market
- ☐ Design of training programs/ Curriculum development
- ☐ Recognition and validation of skills and competences
- ☐ Host of student-interns
- ☐ Placement of graduates
- ☐ Provision of support for students' graduation thesis

- ☐ Sharing and transfer of knowledge from/to company
- ☐ Partnership in Research & Development projects
- ☐ Participation in joint events and/or networks/ clusters/ meetings
- ☐ Development of innovative companies, including spin-offs and start-up companies
- ☐ Other (*Please specify*: _____)

8. What was the source of funding for this cooperation/ initiative/ synergy?

- ☐ Own funds
- ☐ Self-financing, i.e. income generated by the project(s)
- ☐ National funds
- ☐ Regional funds
- ☐ EU funds
- ☐ Other (*Please specify*: _____)

9. Are you satisfied with the cooperation?

- ☐ Yes
- ☐ No (*Please briefly explain the key reasons*: _____)

10. Have you received outside training from an external organisation in the last 5 years?

- ☐ Yes
- ☐ No

If you answered "*Yes*" for Q10, please continue to Q11. Otherwise, please skip to Q12.

11. What was the nature/ content of the training?

- ☐ Introduction to footwear design and manufacture
- ☐ Advanced footwear technology and design
- ☐ Sustainable design and/or manufacturing
- ☐ Administrative/ Financial management
- ☐ Marketing/ Sales
- ☐ Research/ Innovation
- ☐ Other (*Please specify*: _____)

12. Has your company received consulting services by an external organisation in the last 5 years?

- ☐ Yes
- ☐ No (*Please briefly explain the reasons*: _____)

If you answered "*Yes*" for Q12, please continue to Q13. Otherwise, please skip to Q14.

13. What type of services did your organisation provide?

- ☐ Environmental performance / Sustainable solutions services
- ☐ Quality assurance and compliance services

- ☐ Footwear testing services
- ☐ Marketing/ Sales
- ☐ Support in the use of ICT tools and solutions
- ☐ Other (*Please specify*: _____)

14. In your opinion, how qualified is the workforce currently employed or sought to be employed by the footwear companies in terms of the required skills and competences?

- ☐ Over-qualified
- ☐ Under-qualified
- ☐ Correctly qualified

If you answered "*Under-qualified*" for Q14, please continue to Q15. Otherwise, please skip to Q16.

15. Why do you believe such a skill shortage exists?

- ☐ Lack of experience/ recently recruited
- ☐ Employee reluctance/ staff lack motivation to develop their skills
- ☐ Employer failure to properly train and develop the staff
- ☐ Inability of the workforce to keep up with change
- ☐ Recruitment problems
- ☐ Insufficient availability of training opportunities
- ☐ Lack of courses that suit the needs of the sector
- ☐ Other (*Please specify*: _____)

SECTION C - Need for new skills and further training

16. Please indicate your perception of the importance of the following skills and training needs for a footwear designer.

Knowledge/ skill	Importance of the knowledge/ skill					Need for training on this skill	
	Not Important	Slightly Important	Important	Very Important	Extremely Important		
	1	2	3	4	5	Yes	No
Technological							
Knowledge on the footwear products' processes and related technology/machinery, including all phases of footwear manufacturing and different types of construction, design techniques, raw materials and components	☐	☐	☐	☐	☐	☐	☐
Knowledge on sustainable materials and components	☐	☐	☐	☐	☐	☐	☐
Knowledge on new manufacturing technologies and processes, including eco-design	☐	☐	☐	☐	☐	☐	☐
Quality							

Knowledge/ skill	Importance of the knowledge/ skill					Need for training on this skill	
	Not Important	Slightly Important	Important	Very Important	Extremely Important		
	1	2	3	4	5	Yes	No
Knowledge on the quality characteristics of “traditional” materials and how to evaluate them	☐	☐	☐	☐	☐	☐	☐
Knowledge on the quality characteristics of new, eco-friendly, materials and how to evaluate them	☐	☐	☐	☐	☐	☐	☐
Knowledge on the quality controls available for footwear products	☐	☐	☐	☐	☐	☐	☐
Environmental aspects							
Knowledge of the environmental legislation and standards	☐	☐	☐	☐	☐	☐	☐
Knowledge on the available methods for improving the environmental performance throughout the manufacturing process	☐	☐	☐	☐	☐	☐	☐
Knowledge of Life Cycle Analysis and Circular Economy principles	☐	☐	☐	☐	☐	☐	☐
Knowledge of mass customisation techniques	☐	☐	☐	☐	☐	☐	☐
Research & Innovation							
Knowledge on the procedures and tools available for a Research and Development Management System, including new product development, technology development, process development, technological transfer	☐	☐	☐	☐	☐	☐	☐
Knowledge on how to design and implement projects in relation to the latest developments on new materials and components for footwear	☐	☐	☐	☐	☐	☐	☐
Knowledge on how to design and implement projects in relation to the latest developments on new manufacturing technologies and business models	☐	☐	☐	☐	☐	☐	☐
Non-technological aspects							
Follow the footwear fashion and market trends	☐	☐	☐	☐	☐	☐	☐
Pro-actively understand customers’ and market needs	☐	☐	☐	☐	☐	☐	☐
Logistics	☐	☐	☐	☐	☐	☐	☐
Digital Marketing/ promotion of products through new ICTs and social media	☐	☐	☐	☐	☐	☐	☐
Networking and development of synergies with other entities (e.g. universities, research centres, etc.)	☐	☐	☐	☐	☐	☐	☐
Financial Management	☐	☐	☐	☐	☐	☐	☐
Organisation Planning and Time Management	☐	☐	☐	☐	☐	☐	☐

Knowledge/ skill	Importance of the knowledge/ skill					Need for training on this skill	
	Not Important	Slightly Important	Important	Very Important	Extremely Important		
	1	2	3	4	5	Yes	No
Improvement of leadership skills	☐	☐	☐	☐	☐	☐	☐
Use of export, credit and financial instruments enabling to industrialize and commercialize the innovation results	☐	☐	☐	☐	☐	☐	☐
Other skills *(Please specify)*							

Section D – FUTURE PERSPECTIVES and actions

17. What do you believe are the <u>top three</u> (3) challenges the footwear sector is currently facing *(Please select up to three options)*

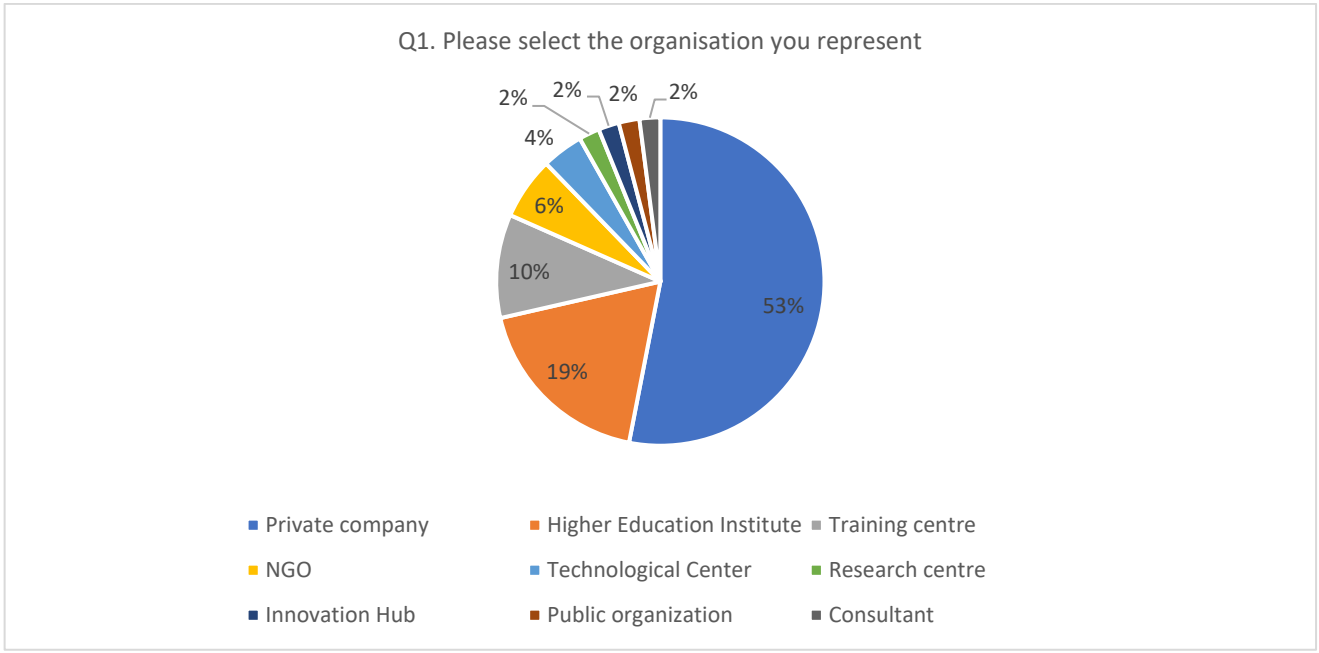
- ☐ Funding
- ☐ Lack of high-skilled personnel
- ☐ Competition from non-EU countries
- ☐ High cost of production
- ☐ Strict environmental regulations
- ☐ Other (*Please specify*: _____)

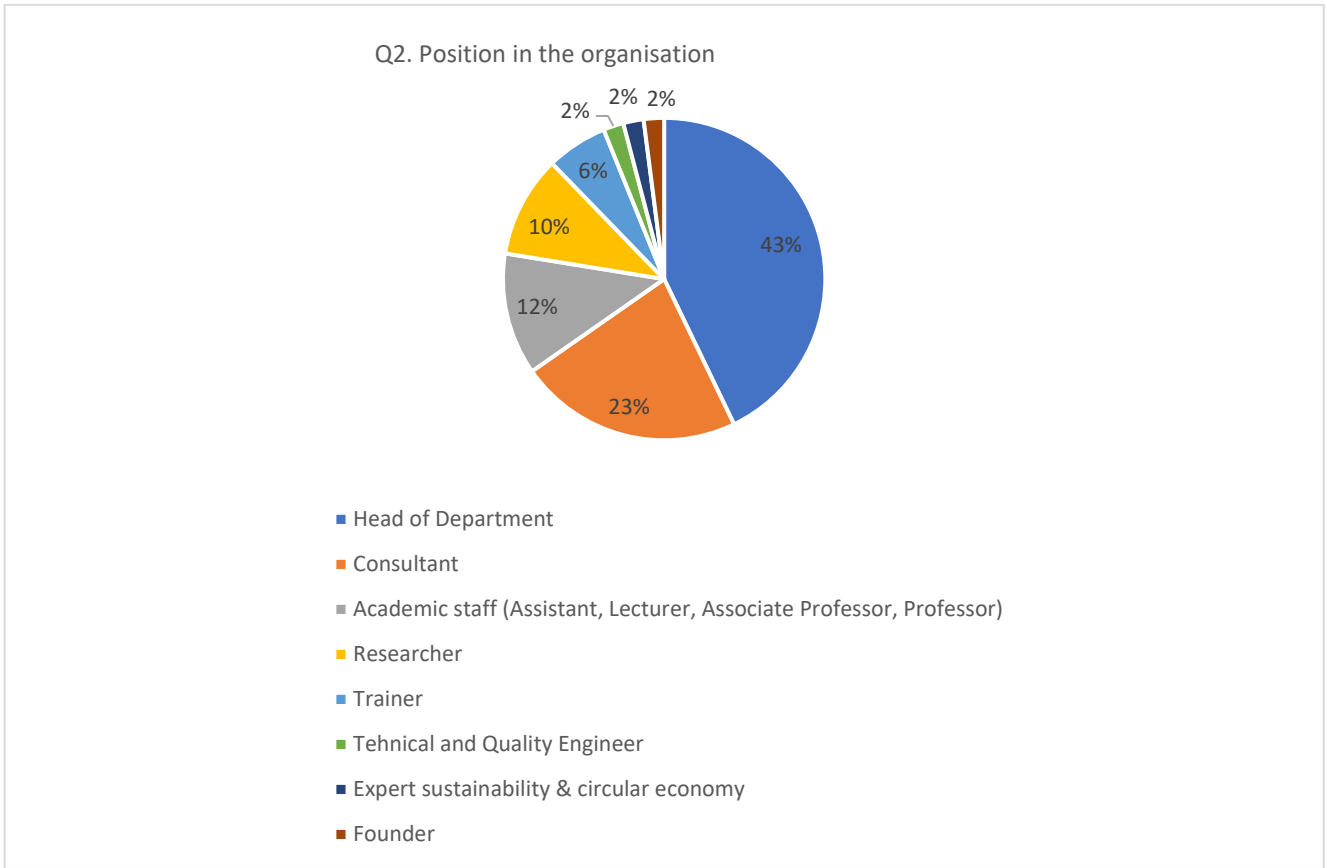
18. What do you believe are the <u>top three</u> (3) effective types of actions to support the design and development of sustainable footwear *(Please select up to three options)*

- ☐ Hackathons
- ☐ Multiplier events
- ☐ Seminars
- ☐ Roundtable discussions
- ☐ Career days
- ☐ Other (*Please specify*: _____)

19.What do you believe that your organisation and you, from your position, could do in order to support the sector?

Results from experts





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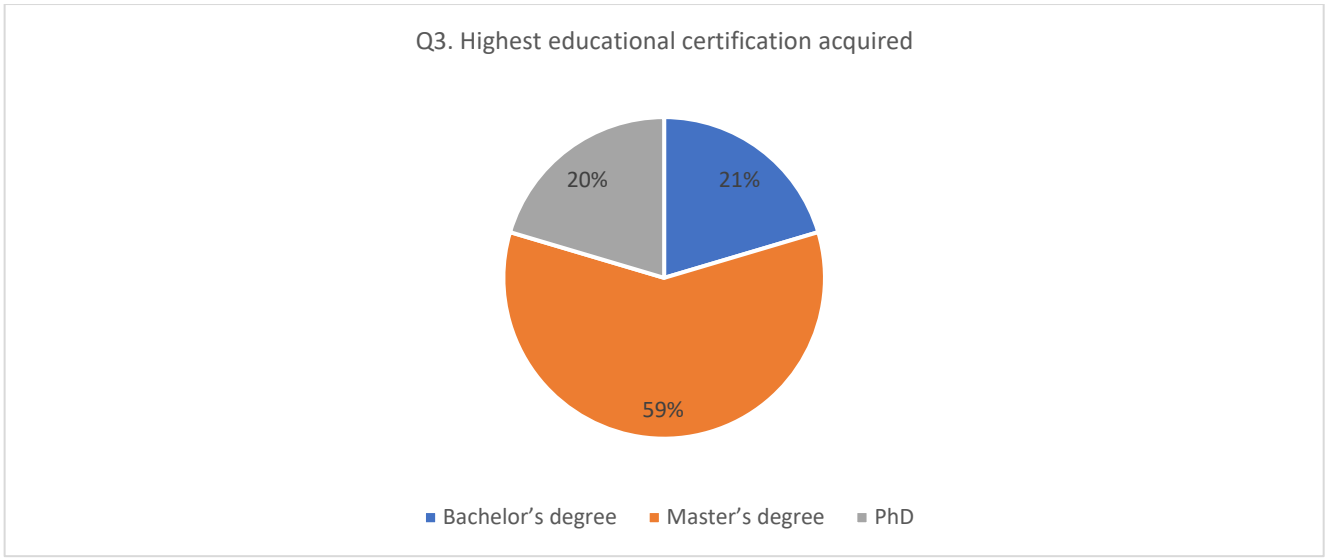
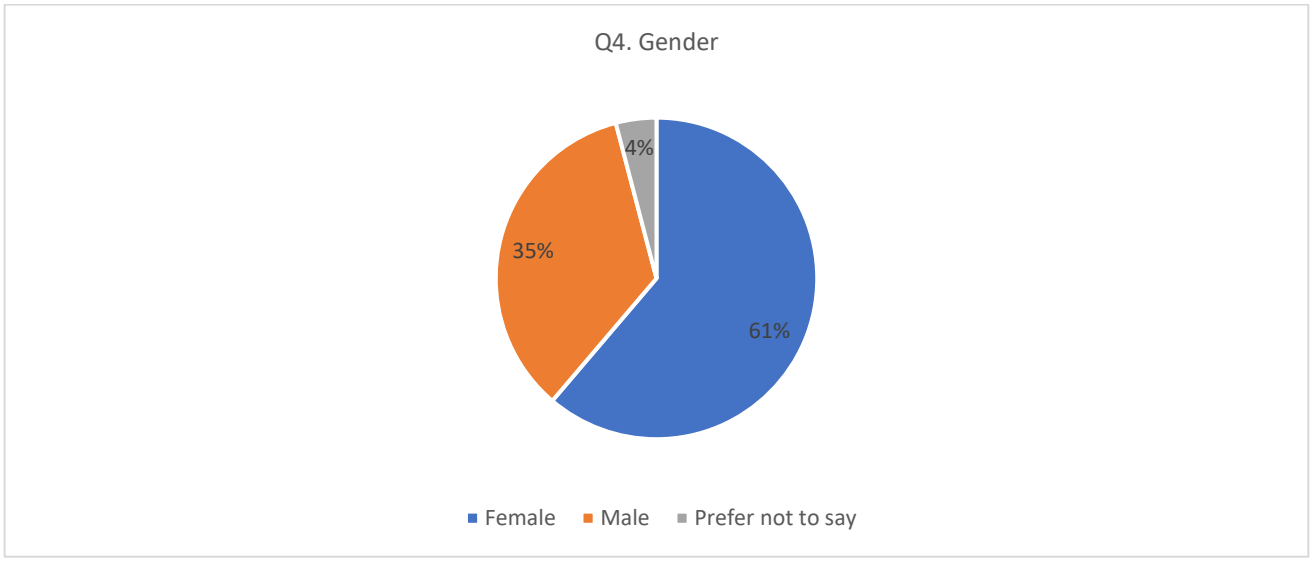
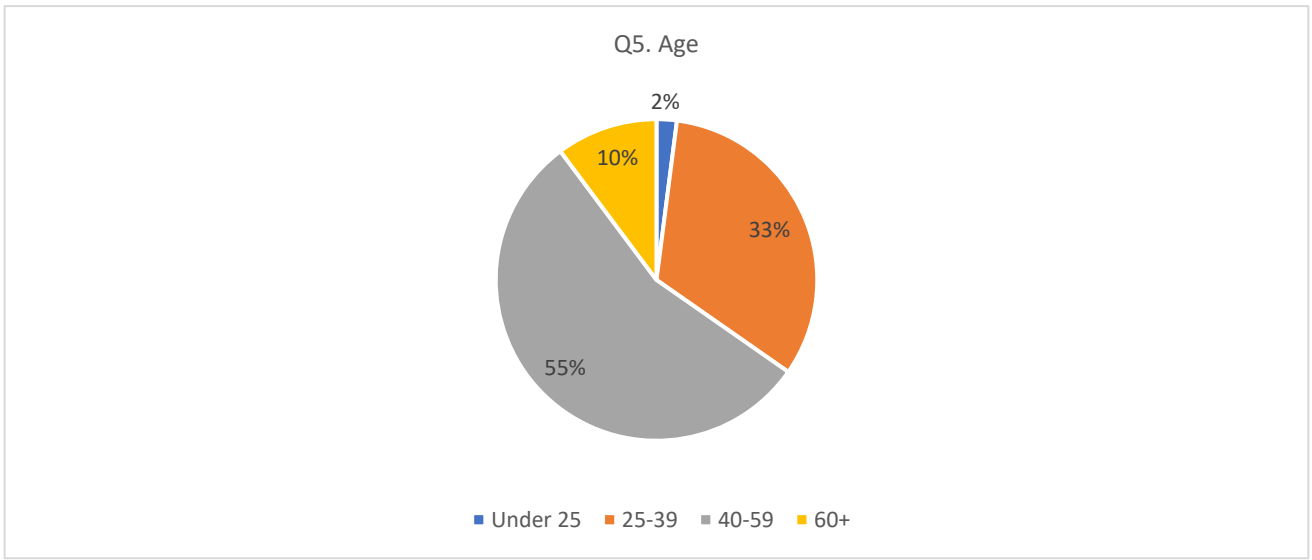
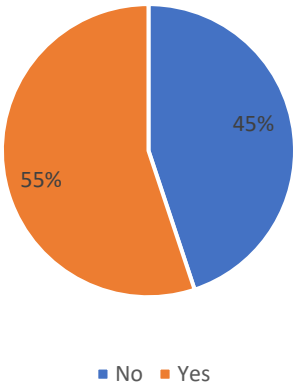

Q3. Highest educational certification acquired
20%
21%
59%
Bachelor's degree
Master's degree
PhD

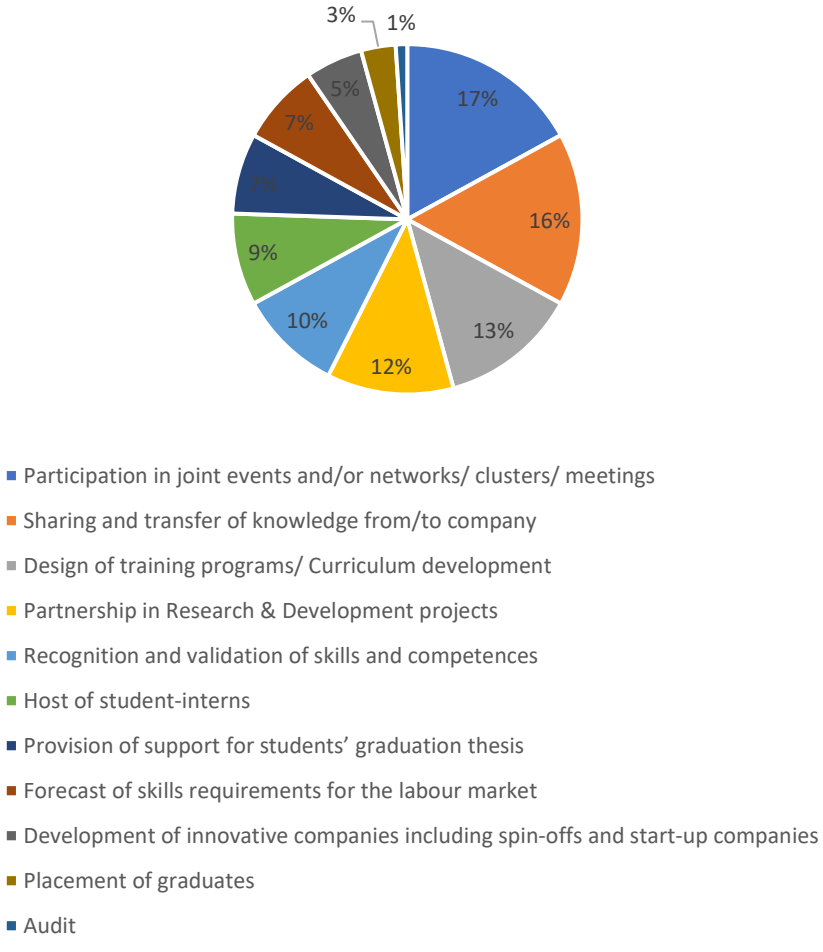

Q4. Gender
4%
35%
61%
Female
Male
Prefer not to say


Q5. Age
2%
10%
33%
55%
Under 25
25-39
40-59
60+

Q6. Have you participated in a cooperation between a footwear design company and an external organisation in the last 5 years?



Q7. Please indicate what type of cooperation has been developed



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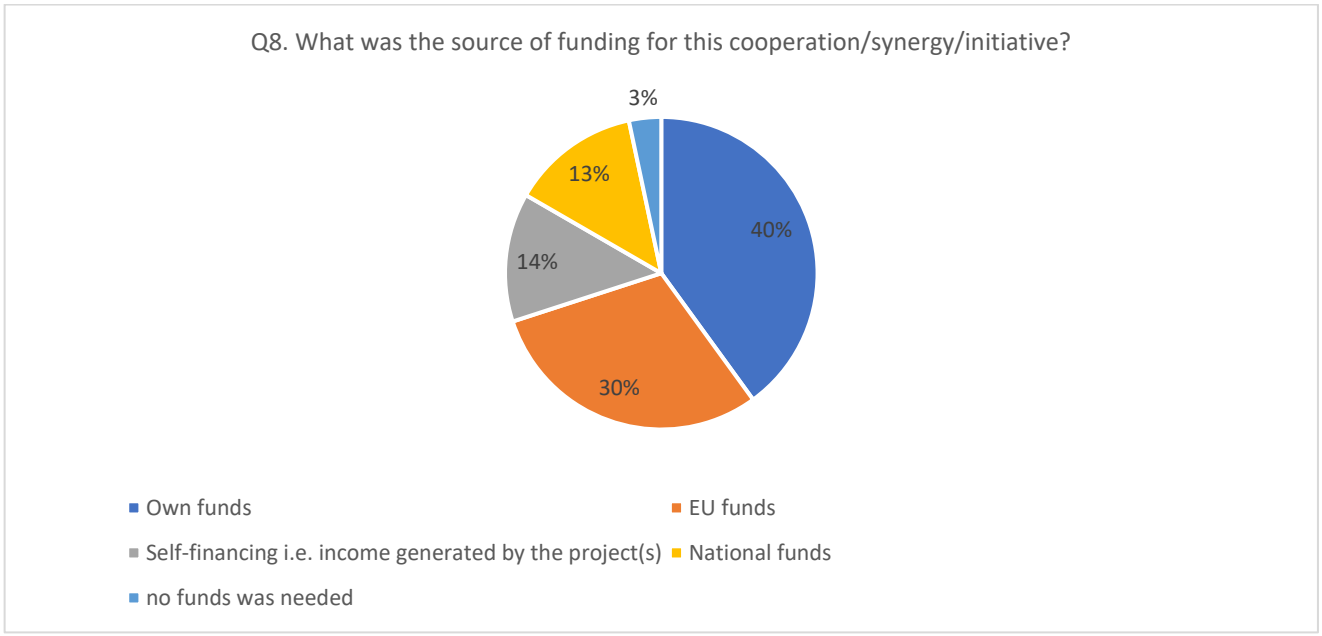
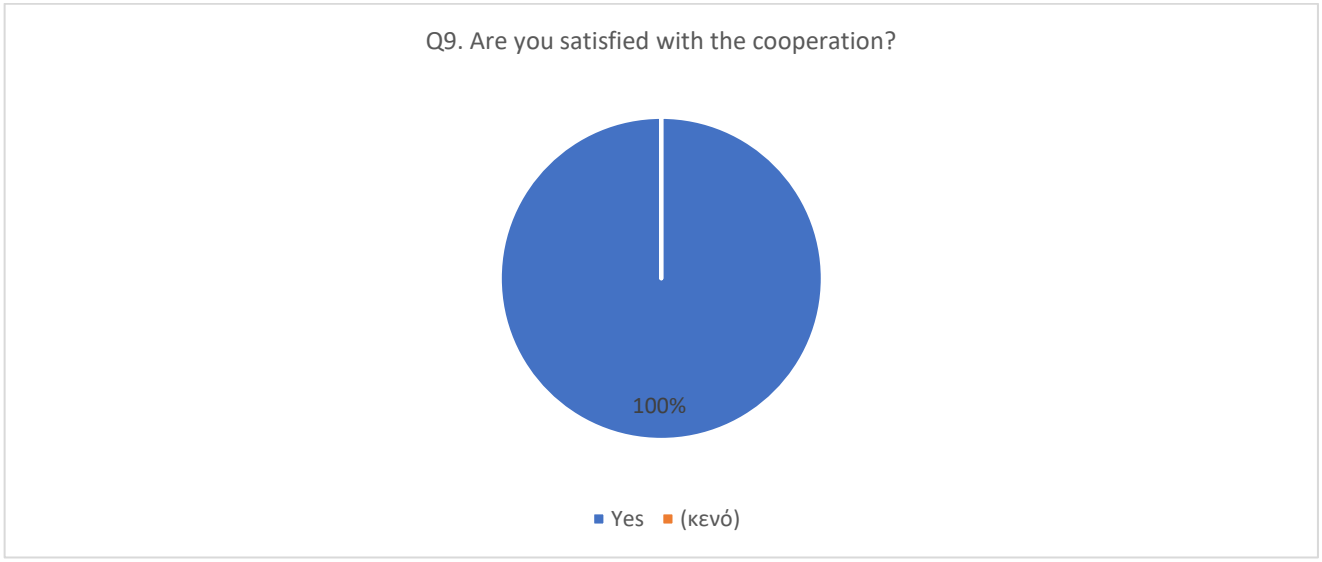
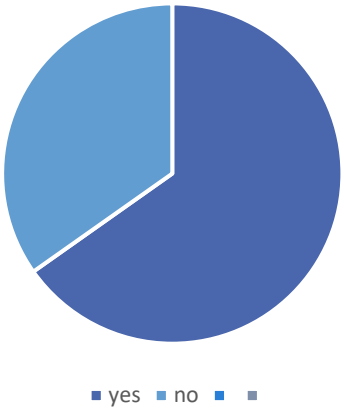
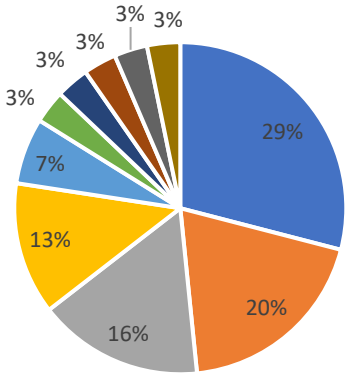

Q8. What was the source of funding for this cooperation/synergy/initiative?
3%
13%
40%
14%
30%
Own funds
EU funds
Self-financing i.e. income generated by the project(s)
National funds
no funds was needed


Q9. Are you satisfied with the cooperation?
100%
Yes
(κενό)

Q10. Have you received outside trainingfrom an external organisation through the last 5 years?

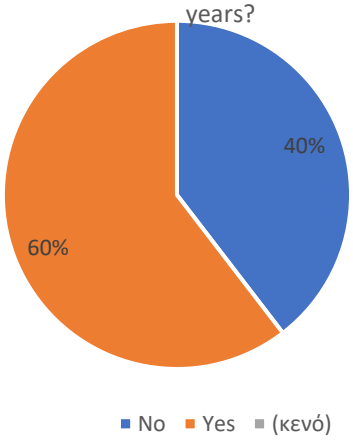


Q11. What was the nature/content of the training?

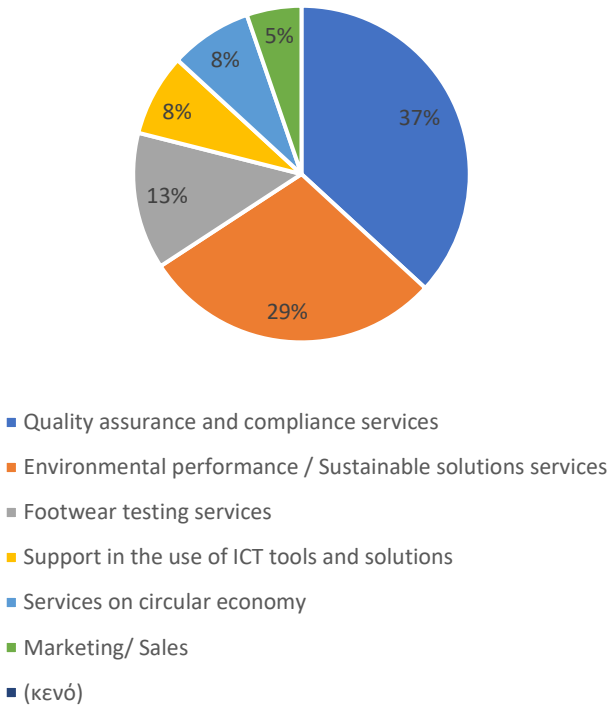


- Circular economy
- Advanced footwear technology and design
- Research/ Innovation
- Administrative/ Financial management
- Sustainable design and/or manufacturing
- Marketing/ Sales
- Branding
- Training in Lean methods and tools; methods and times, Digital tools to support quality management; Environmental management support tools; shoe cutting, sewing, assembly and finishing
- Introduction to footwear design and manufacture
- Lean Production
- (κενό)

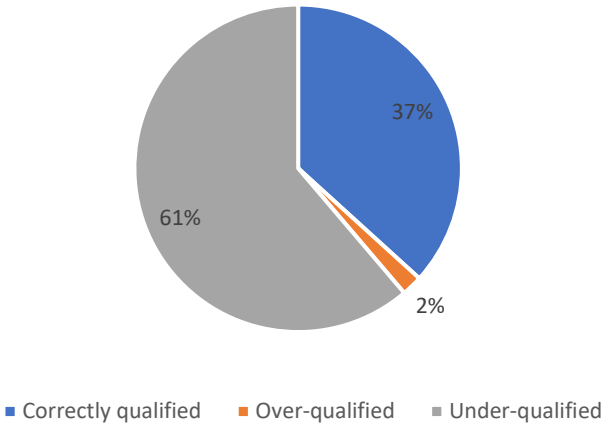
Q12.Has your company received consulting services fro an external organisation in the last 5 years?



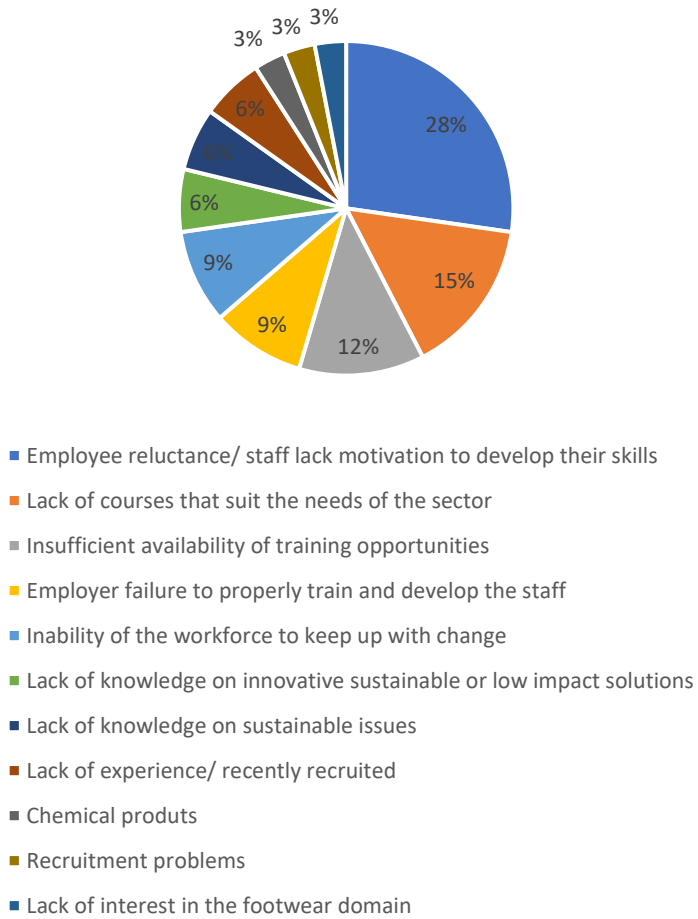
Q13. What type of services did your organisation provide?



Q14. In your opinion, how qualified is the workforce currently employed or sought to be employed by the footwear companies in terms of the required skills and competences?



Q15.Why do you believe such a skill shortage exists?



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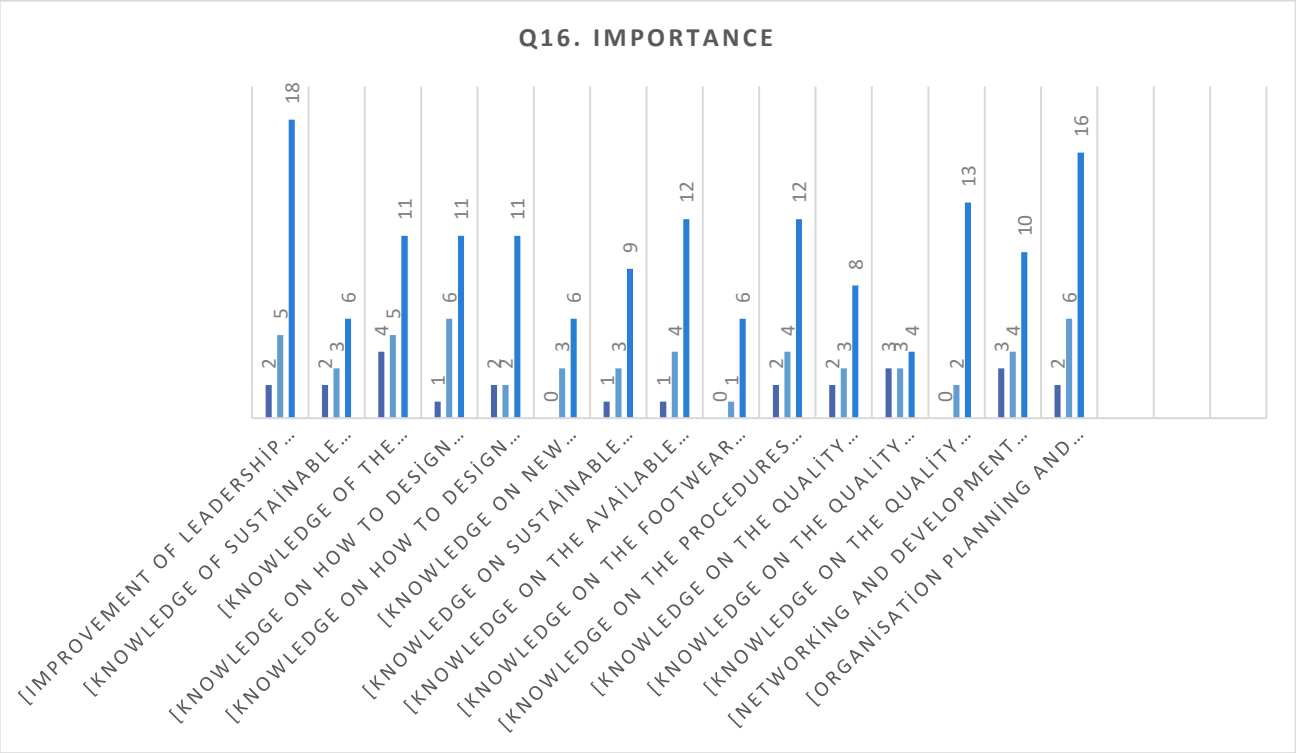

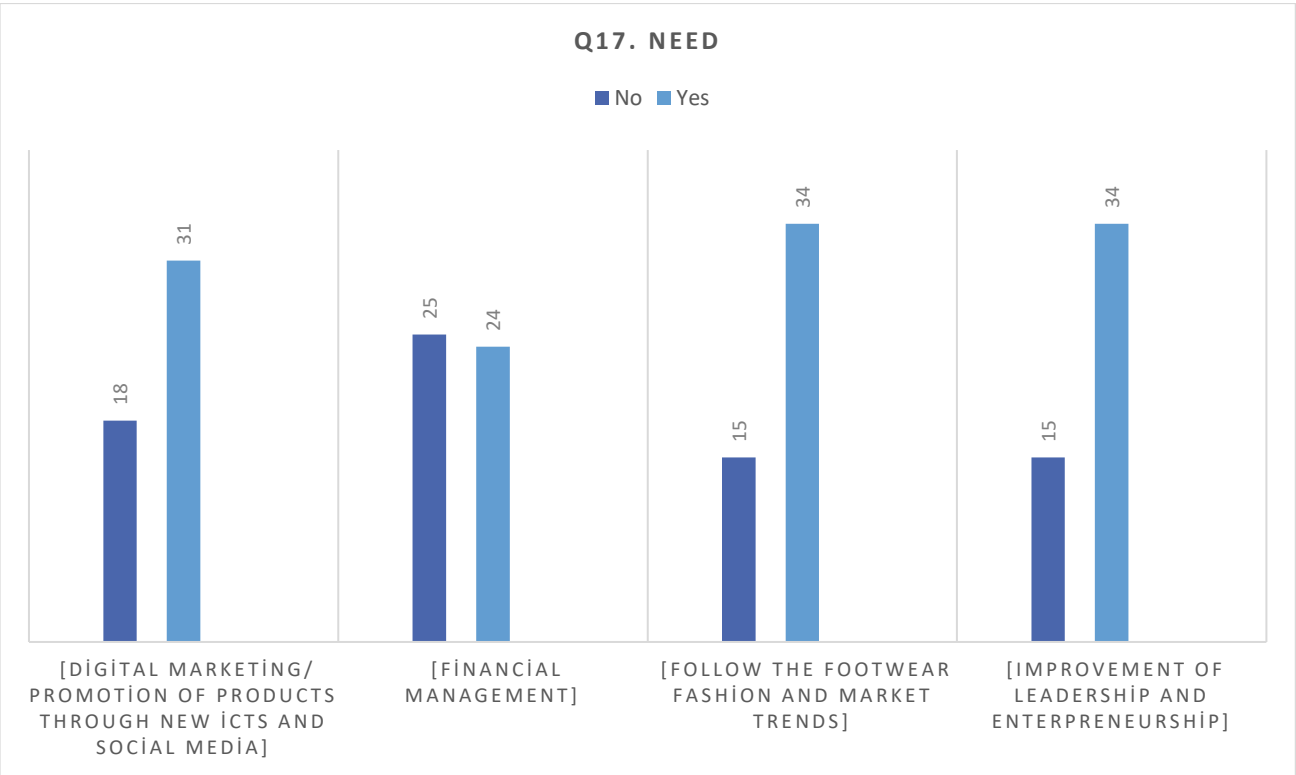

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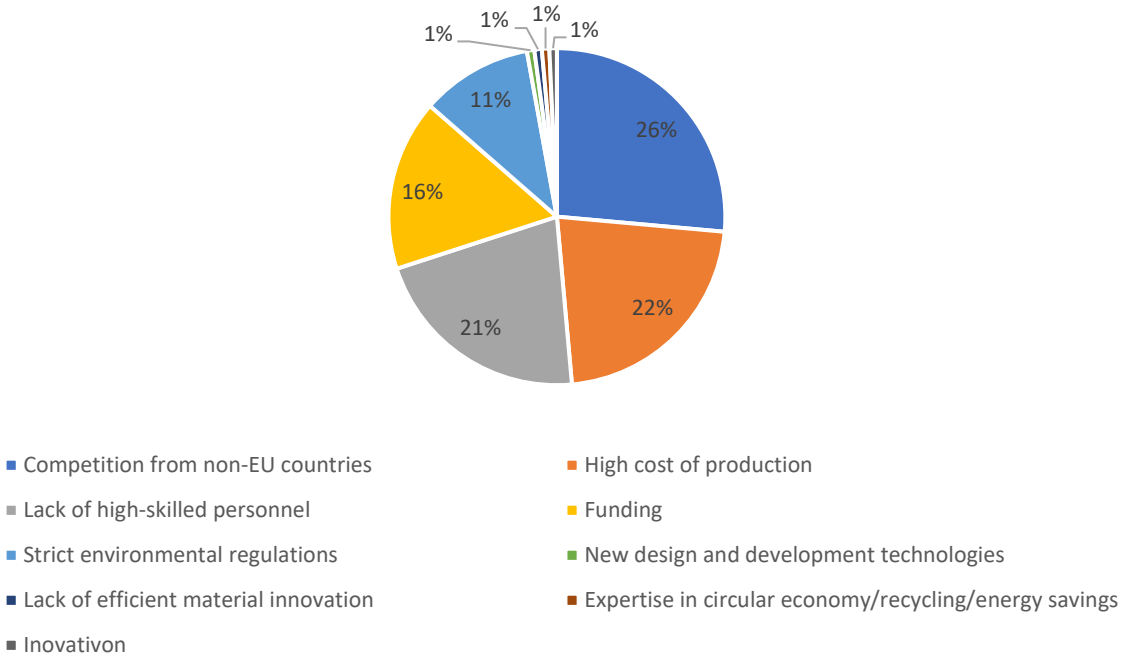
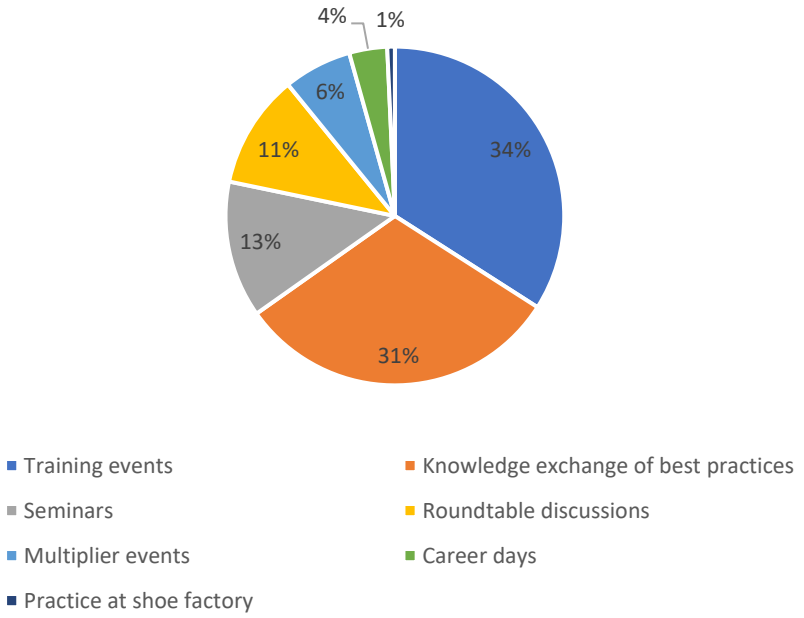
Q18. What do you believe are the top 3 challenges the footwear designs?



Q19. What do you believe are the three top effective types of actions to sup



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8.2 Designers

QUESTIONNAIRE FOR DESIGNERS

INTRODUCTION AND CONSENT

The SHODES project aims at promoting both lifelong learning and equal opportunities in the knowledge-based society, as well as the further integration of the European labour market for all relevant professionals. Following an innovative approach in terms of Project Results, the SHOEDES project will enrich an initiative of the Commission, namely ESCO (European Skills, Competences, Qualifications and Occupations). The project shall deliver a set of instruments for the existing and aspiring designers of the footwear industry to receive the most up-to-date and according to the anticipations of required skills and training needs knowledge and information in order to be able to design footwear for the circular economy under a holistic approach.

As part of this effort, SHOEDES is inviting existing footwear designers to participate in an anonymous survey that will help the partnership identify and address skills gaps and training needs pertaining to existing and new (aspiring) designers of the sector.

All of your responses will be kept strictly confidential. They will only be used for statistical purposes and will be reported only in aggregated form.

The survey will take around 10-15 minutes to complete.

If you have any questions about this survey, or you would like more information about the SHOEDES project, please contact <NAME OF NATIONAL CONTACT PERSON> at <email, telephone number>.

Would you like to receive news from our project (about one email per semester)?
_____ *Yes, my email address is* _____
_____ *No*

SECTION A - Background INFORMATION

First, please provide some background information about yourself.

1. **Position in the company**

- ☐ Owner/ CEO
- ☐ Designer
- ☐ RDI (Research, Development and Innovation)
- ☐ Sales
- ☐ Purchases
- ☐ Manufacturing
- ☐ Other (*Please specify*: _____)

2. **Highest educational qualification acquired**

- ☐ Secondary
- ☐ Technical – Vocational training
- ☐ Bachelor's / University degree

- ☐ Master's degree
- ☐ PhD
- ☐ Other (*Please specify*: _____)

3. Gender

- ☐ Male
- ☐ Female
- ☐ Unspecified

4. Age

- ☐ Under 25
- ☐ 25-39
- ☐ 40-59
- ☐ Over 60

SECTION B - Place of Employment

5. In which sub-sector does the company, where you currently work, operate? *(Select all that apply)*

- ☐ Services to the footwear sector / Consultancy
- ☐ Trade / Commerce
- ☐ Manufacture of footwear
- ☐ Manufacture of footwear components
- ☐ Other (*Please specify*: _____)

6. If you selected "*Services to the footwear sector/ Consultancy*" for Q5, what type of services does the company, where you currently work, provide to the footwear sector? *(Select all that apply)*

- ☐ Auditing
- ☐ Design
- ☐ Environmental protection, eco-labelling and certification
- ☐ Promotion - Marketing
- ☐ RDI
- ☐ Quality control
- ☐ Training
- ☐ Technology support
- ☐ Other (*Please specify*: _____)

7. If you selected "*Manufacture of footwear*" for Q5, what type of footwear does the company, where you currently work, produce? *(Select all that apply)*

In terms of target group:

- ☐ Ladies' shoes
- ☐ Men's shoes

☐ Children's shoes

In terms of type of shoes:

☐ High fashion shoes

☐ Casual shoes

☐ Sports shoes

☐ Occupational and safety shoes

☐ Outdoor and hiking shoes

☐ Orthopaedics

☐ Therapeutic or prophylactic shoes

☐ Other (*Please specify*: _____)

8. Does the company, where you currently work, export any of its products?

☐ No

☐ Yes, less than 25% of sales

☐ Yes, 25% to 49% of sales

☐ Yes, 50% to 75% of sales

☐ Yes, more than 75% of sales

9. Which of the following categories do you believe best describes the company's type?

☐ Micro (0 - 9 employees)

☐ Small (10 - 49 employees)

☐ Medium (50 - 249 employees)

☐ Large (More than 250 employees)

10. Please indicate how the composition of the workforce in the company, where you currently work, has changed in the last 5 years.

	Increased	Decreased	No change	Don't know
Low-skilled employees	☐	☐	☐	☐
Skilled employees	☐	☐	☐	☐
Technicians	☐	☐	☐	☐
With a university degree	☐	☐	☐	☐

11. Please indicate if there have been any changes/improvements in the company, where you currently work, in the last 5 years, regarding:

	Yes	No	Don't know
New production equipment	☐	☐	☐
Adoption of new production processes and/ or changes of the existing ones	☐	☐	☐
Adoption of new/ improved technologies to reduce the environmental footprint (waste reduction/ reuse/ recycling technologies, energy efficiency, etc.)	☐	☐	☐

	Yes	No	Don't know
Design and manufacture of new sustainable products	☐	☐	☐
Adoption of new/ changes of existing business – management processes (e.g. quality management, environmental management, etc.)	☐	☐	☐
Increased use of ICT in business operations, i.e. new/ more ICT systems for marketing, design, logistics, supply chain management, planning and production, e-commerce, Customer Relationship Management (CRM)	☐	☐	☐

12. Please indicate if, in the last 5 years, the company, where you currently work, has cooperated with:

	Yes	No	Don't know
Research Centres or Labs	☐	☐	☐
Universities	☐	☐	☐
Training centres	☐	☐	☐
Other (*Please specify*: _____)			

If you answered "*Yes*" for any of the Q12 options, please continue to Q13. Otherwise, please skip to Q14.

13. Please indicate what type of cooperation has been developed *(Select all that apply)*

- ☐ Forecast of skills requirements for the labour market
- ☐ Design of training programs/ Curriculum development
- ☐ Recognition and validation of skills and competences
- ☐ Host of student-interns
- ☐ Placement of graduates
- ☐ Provision of support for students' graduation thesis
- ☐ Sharing and transfer of knowledge from/to company
- ☐ Partnership in Research & Development projects
- ☐ Participation in joint events and/or networks/ clusters/ meetings
- ☐ Development of innovative companies, including spin-offs and start-up companies
- ☐ Other (*Please specify*: _____)

SECTION C – Training background

14. Have you participated in any (formal or informal) type of training/education regarding footwear in the last 5 years?

- ☐ Yes
- ☐ No

If you answered "*Yes*" for Q14, please continue to Q15. Otherwise, please skip to Q18.

15. What was the nature/ content of the training?

- ☐ Introduction to footwear design and manufacture
- ☐ Advanced footwear technology and design
- ☐ Sustainable design and/or manufacturing

- ☐ Administrative/ Financial management
- ☐ Marketing/ Sales
- ☐ Research/ Innovation
- ☐ Other (*Please specify*: _____)

16. Was the training provided by the company you are currently employed?

- ☐ Yes
- ☐ No, it was delivered by an external trainer

If you answered "*No*" for Q16, please continue to Q17. Otherwise, please skip to Q18.

17. Who was the training provider?

- ☐ A Higher Education Institute (HEI)
- ☐ A training centre (VET provider)
- ☐ A research centre
- ☐ An individual expert
- ☐ Other (*Please specify*: _____)

18. What kind of training did you receive about footwear prior to your employment in the company?

- ☐ A HEI diploma specialized in footwear
- ☐ A vocational training course (1-2 yrs)
- ☐ A short-term course (weeks/ months)
- ☐ An internship in a footwear company
- ☐ None
- ☐ Other (*Please specify*: _____)

19. Are you aware of any (other) training courses that are available in your area about footwear?

- ☐ Yes (*Please specify*: _____)
- ☐ No

20. Are you aware of any long-distance training courses about footwear (online or other)?

- ☐ Yes (*Please specify*: _____)
- ☐ No

21. Do you follow the latest developments for any of the following: product quality enhancement – process optimization – sustainable manufacturing – new business/management techniques – market trends?

- ☐ Yes
- ☐ No

If you answered "*Yes*" for Q21, please continue to Q22. Otherwise, please skip to Q23.

22. What is your preferred learning method? *(Select all that apply)*

- ☐ Sector press
- ☐ Scientific Journals
- ☐ Conferences, exhibitions
- ☐ Internet (websites, blogs, social media)
- ☐ Seminars
- ☐ Eu or National multiplier events
- ☐ Other (*Please specify*: _____)

23. Do you believe that the education and/or training provided in your country are sufficient for providing a designer the skills required for working in a modern footwear company?

- ☐ Yes
- ☐ No

24. To your knowledge, has the company, where you currently work, ever experienced difficulties in finding employees with desired skills?

- ☐ Yes
- ☐ No

SECTION D - Need for new skills and further training

25. Please evaluate the importance of the following skills for YOU and indicate YOUR training needs.

Knowledge/ skill	Importance of the knowledge/ skill					Need for training on this skill	
	Not Important	Slightly Important	Important	Very Important	Extremely Important		
	1	2	3	4	5	Yes	No
Technological							
Knowledge on the footwear products' processes and related technology/machinery, including all phases of footwear manufacturing and different types of construction, design techniques, raw materials and components	☐	☐	☐	☐	☐	☐	☐
Knowledge on sustainable materials and components	☐	☐	☐	☐	☐	☐	☐
Knowledge on new manufacturing technologies and processes, including eco-design	☐	☐	☐	☐	☐	☐	☐
Quality							
Knowledge on the quality characteristics of "traditional" materials and how to evaluate them	☐	☐	☐	☐	☐	☐	☐
Knowledge on the quality characteristics of new, eco-friendly, materials and how to evaluate them	☐	☐	☐	☐	☐	☐	☐
Knowledge on the quality controls available for footwear products	☐	☐	☐	☐	☐	☐	☐
Environmental aspects							

Knowledge/ skill	Importance of the knowledge/ skill					Need for training on this skill	
	Not Important	Slightly Important	Important	Very Important	Extremely Important		
	1	**2**	**3**	**4**	**5**	**Yes**	**No**
Knowledge of the environmental legislation and standards	☐	☐	☐	☐	☐	☐	☐
Knowledge on the available methods for improving the environmental performance throughout the manufacturing process	☐	☐	☐	☐	☐	☐	☐
Knowledge of sustainable materials to use in footwear design	☐	☐	☐	☐	☐	☐	☐
Research & Innovation							
Knowledge on the procedures and tools available for a Research and Development Management System, including new product development, technology development, process development, technological transfer	☐	☐	☐	☐	☐	☐	☐
Knowledge on how to design and implement projects in relation to the latest developments on new materials and components for footwear	☐	☐	☐	☐	☐	☐	☐
Knowledge on how to design and implement projects in relation to the latest developments on new manufacturing technologies and business models	☐	☐	☐	☐	☐	☐	☐
Non-technological aspects							
Follow the footwear fashion and market trends	☐	☐	☐	☐	☐	☐	☐
Pro-actively understand customers' and market needs	☐	☐	☐	☐	☐	☐	☐
Logistics	☐	☐	☐	☐	☐	☐	☐
Digital Marketing/ promotion of products through new ICTs and social media	☐	☐	☐	☐	☐	☐	☐
Networking and development of synergies with other entities (e.g. universities, research centres, etc.)	☐	☐	☐	☐	☐	☐	☐
Financial Management	☐	☐	☐	☐	☐	☐	☐
Organisation Planning and Time Management	☐	☐	☐	☐	☐	☐	☐
Improvement of leadership skills	☐	☐	☐	☐	☐	☐	☐
Use of export, credit and financial instruments enabling to industrialize and commercialize the innovation results	☐	☐	☐	☐	☐	☐	☐
Other skills *(Please specify)*							

26. What do you believe are the <u>top three</u> (3) challenges faced by the company, where you currently work? *(Please select up to three options)*

- ☐ Funding
- ☐ Lack of high-skilled personnel
- ☐ Competition from non-EU countries
- ☐ High cost of production
- ☐ Strict environmental regulations
- ☐ Other (*Please specify*: _____)

SECTION E – further information

27. Would you like to be notified with the results for this survey?

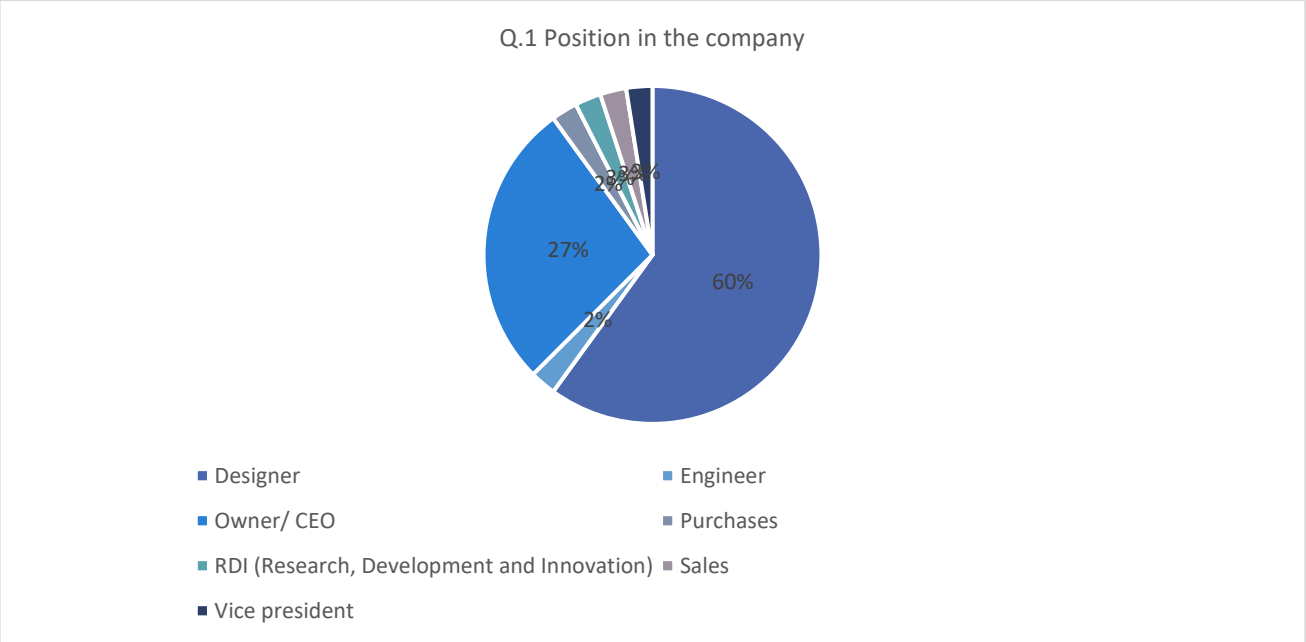
- ☐ Yes
- ☐ No

28. If you answered "Yes", please provide us with your email address here: _____

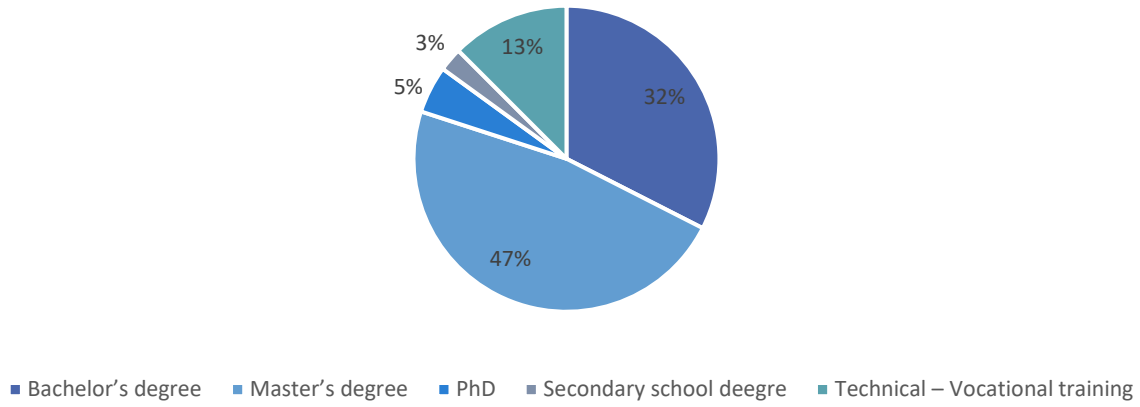
29. The Last Word is Yours: Do you want to elaborate on any of your answers or make additional comments?

Thank you for taking the time to complete this survey!

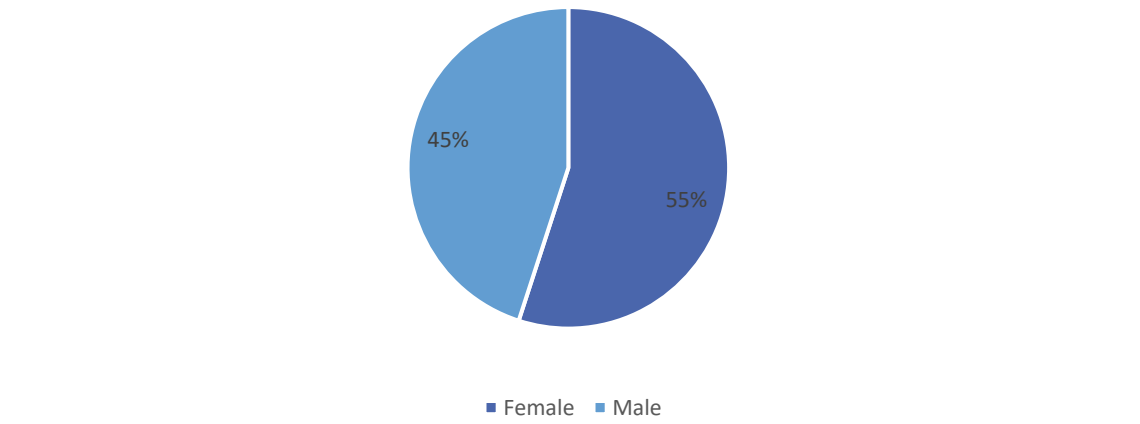
Results from Designers



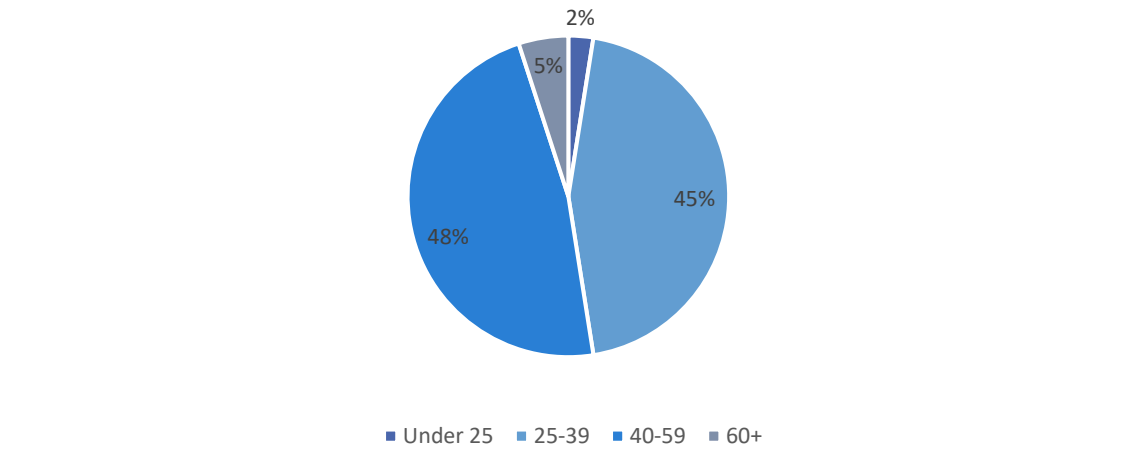
Q.2 Highest educational qualification acquired.

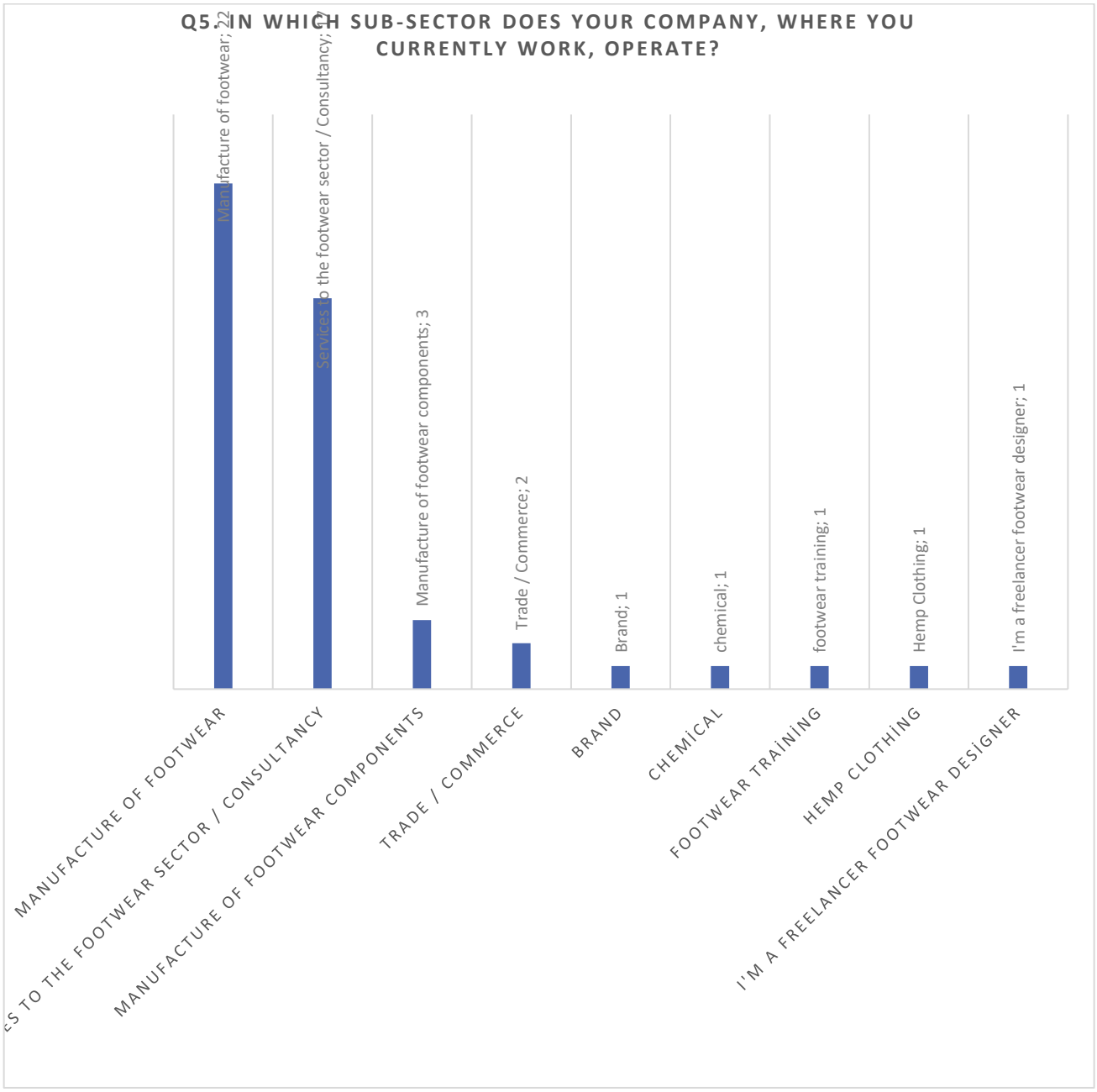


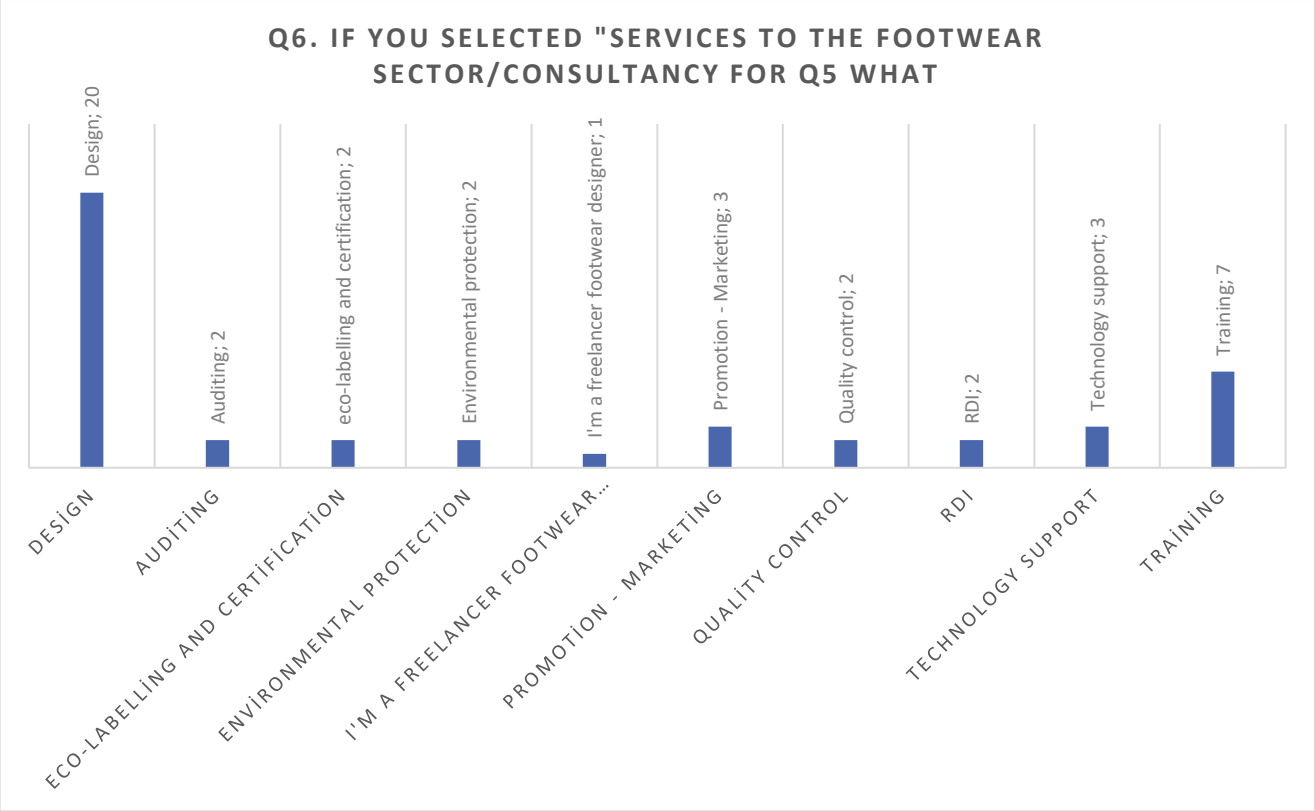
Q.3 Gender

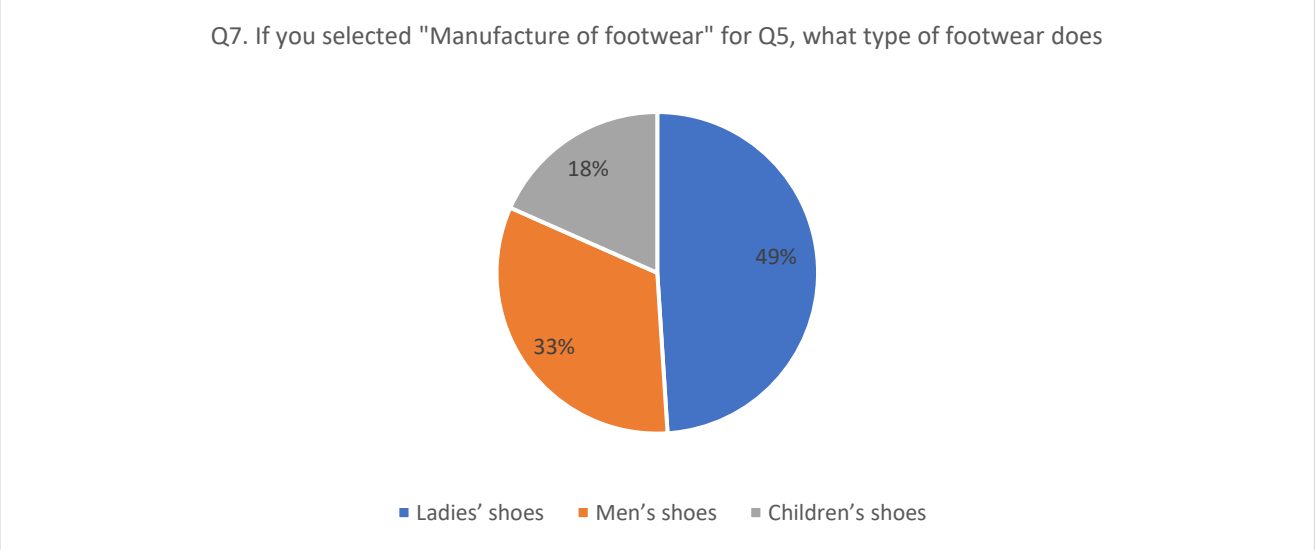


Q.4 Age




Q5 - IN WHICH SUB-SECTOR DOES YOUR COMPANY, WHERE YOU CURRENTLY WORK, OPERATE?
Manufacture of footwear; 22
Services to the footwear sector / Consultancy; 7
Manufacture of footwear components; 3
Trade / Commerce; 2
Brand; 1
chemical; 1
footwear training; 1
Hemp Clothing; 1
I'm a freelancer footwear designer; 1
MANUFACTURE OF FOOTWEAR
ES TO THE FOOTWEAR SECTOR / CONSULTANCY
MANUFACTURE OF FOOTWEAR COMPONENTS
TRADE / COMMERCE
BRAND
CHEMICAL
FOOTWEAR TRAINING
HEMP CLOTHING
I'M A FREELANCER FOOTWEAR DESIGNER





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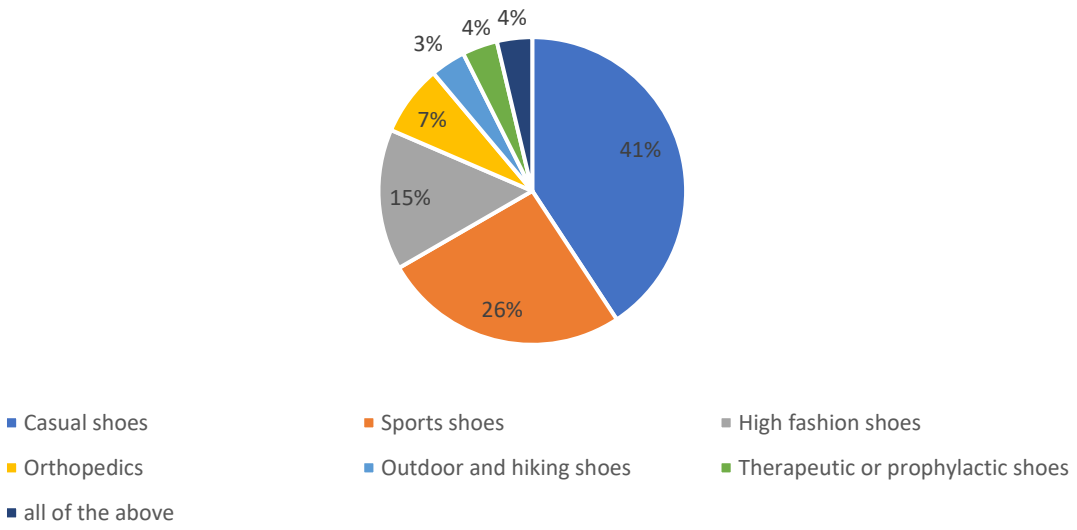
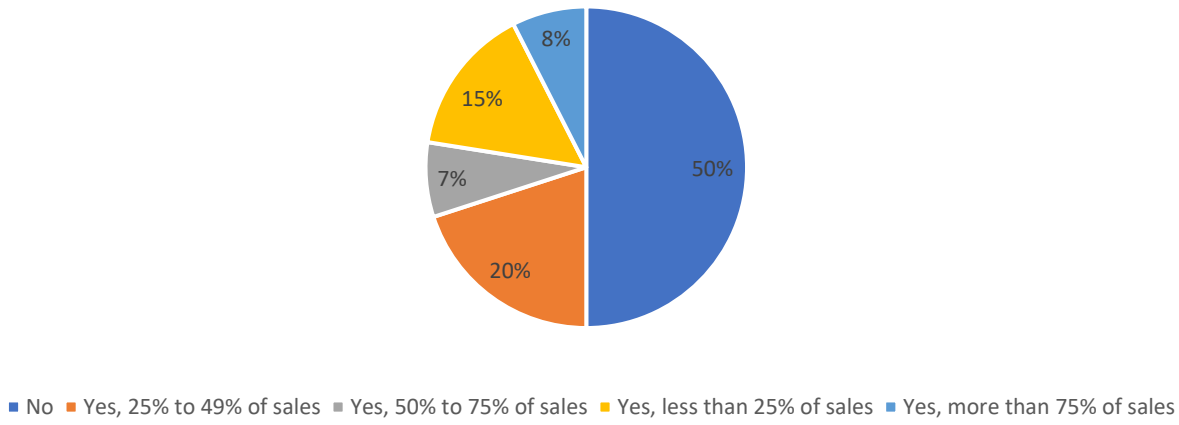
Q.8 If you selected “Manufacture of footwear” for Q5, what type of footwear does the company, where



Q.9 Does the company, where you currently work, export any of its products?



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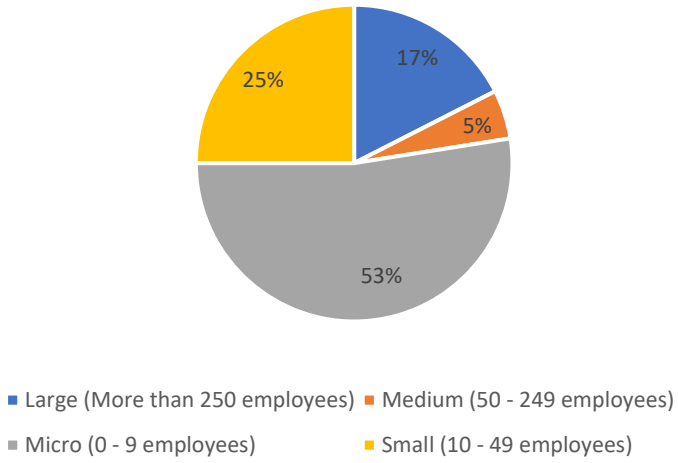
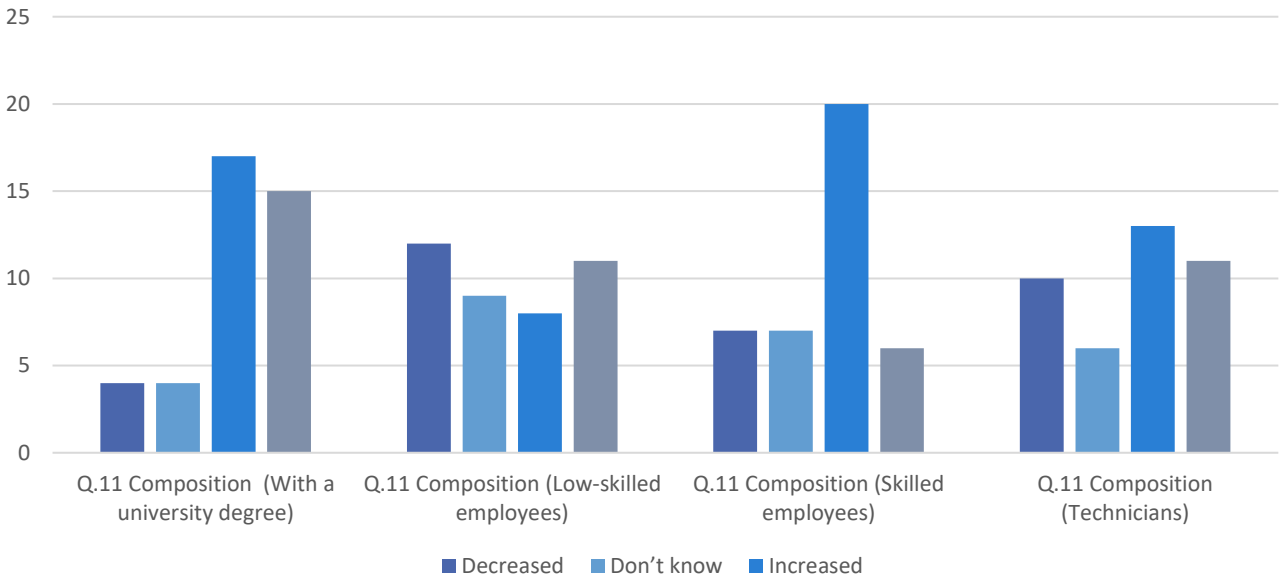
Q.10 Which of the following categories do you believe best describes the company's type?



Q11. Please indicate if there have been any changes/improvements in the company, where you currently work, in the last 5 years, regarding:



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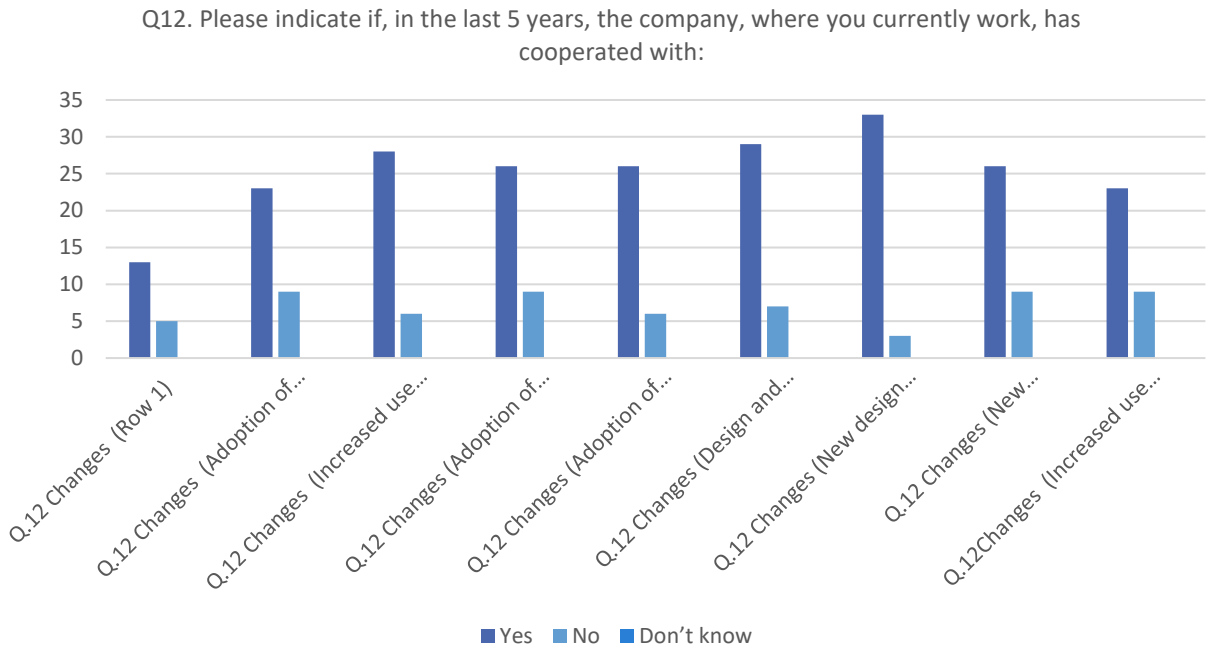
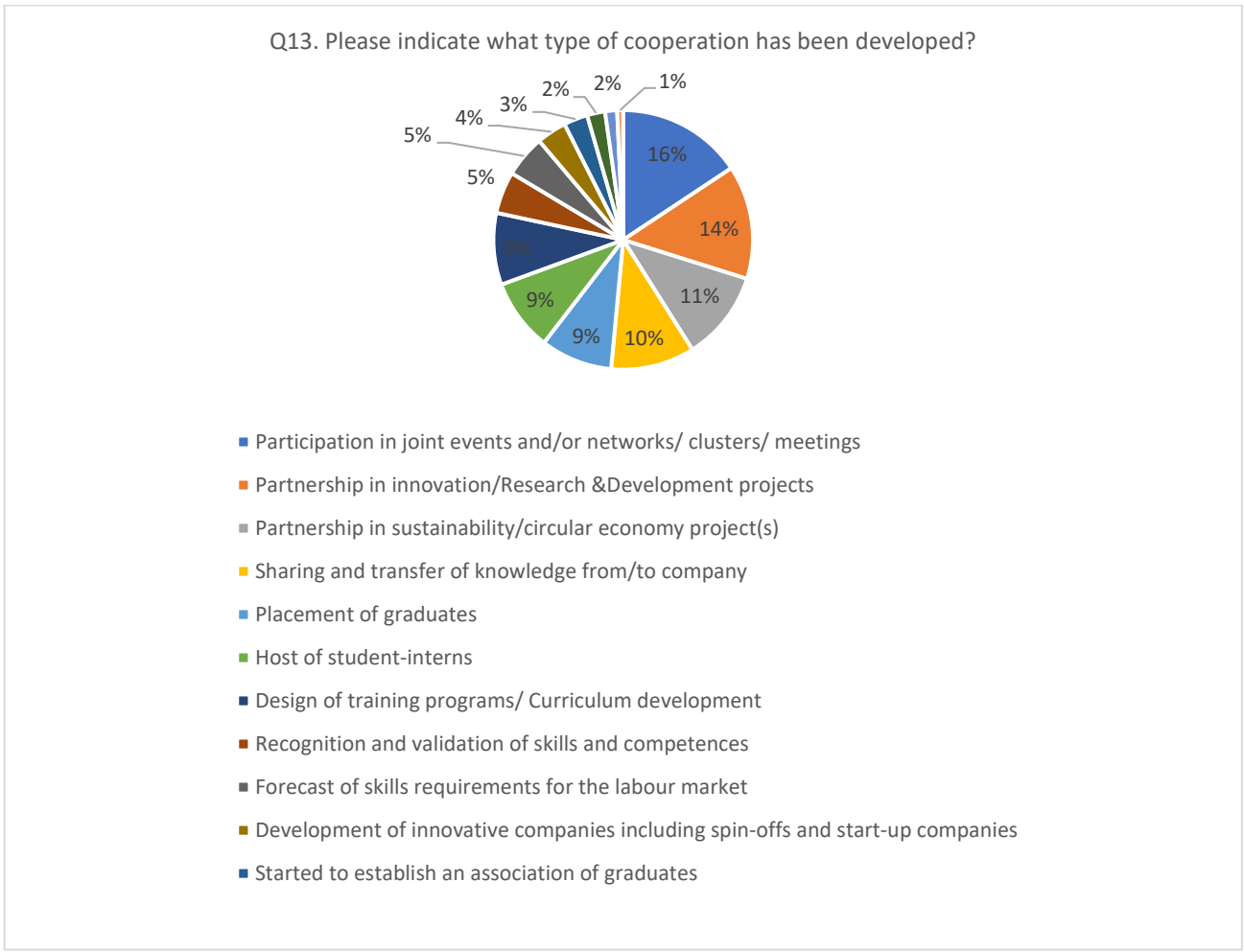
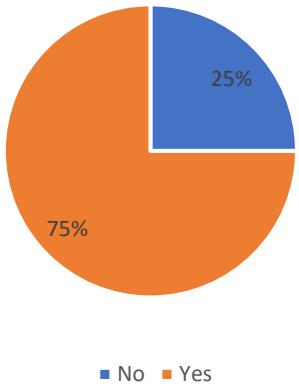
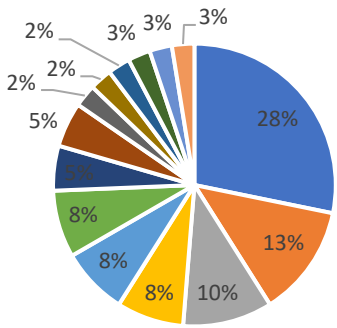

Q12. Please indicate if, in the last 5 years, the company, where you currently work, has cooperated with:
35
30
25
20
15
10
5
0
Q.12 Changes (Row 1)
Q.12 Changes (Adoption of...
Q.12 Changes (Increased use...
Q.12 Changes (Adoption of...
Q.12 Changes (Adoption of...
Q.12 Changes (Design and...
Q.12 Changes (New design...
Q.12 Changes (New...
Q.12Changes (Increased use...
Yes
No
Don't know


Q13. Please indicate what type of cooperation has been developed?
16%
14%
11%
10%
9%
9%
9%
5%
5%
4%
3%
2%
2%
1%
Participation in joint events and/or networks/ clusters/ meetings
Partnership in innovation/Research &Development projects
Partnership in sustainability/circular economy project(s)
Sharing and transfer of knowledge from/to company
Placement of graduates
Host of student-interns
Design of training programs/ Curriculum development
Recognition and validation of skills and competences
Forecast of skills requirements for the labour market
Development of innovative companies including spin-offs and start-up companies
Started to establish an association of graduates

Q.14 Have you participated in any (formal or informal) type of training/education regarding footwear



Q15. What was the nature/content of the training?



- Advanced footwear technology and design
- Sustainable design and/or manufacturing
- Introduction to footwear design and manufacture
- Research/ Innovation
- Circular solutions
- Use of recycled materials
- Marketing/ Sales
- Low or zero impact materials
- production planning
- pyhsical&chemical tests
- Traditional footwear production
- How to design in 3D
- Skill development in stitching
- Pattern maker in cad

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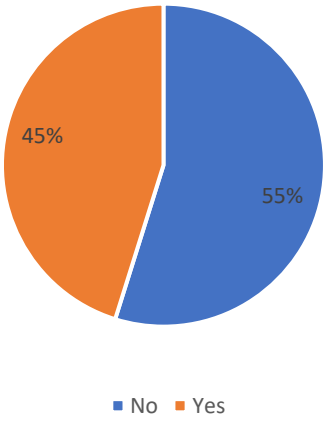
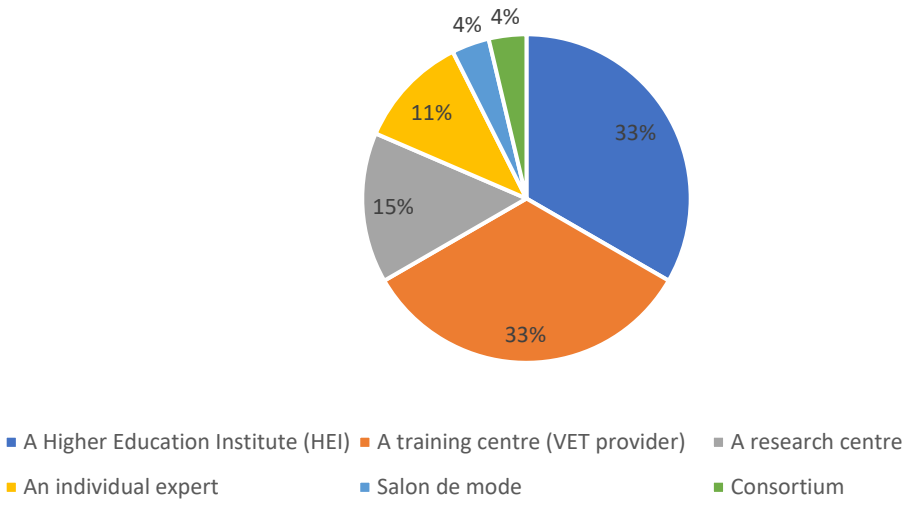
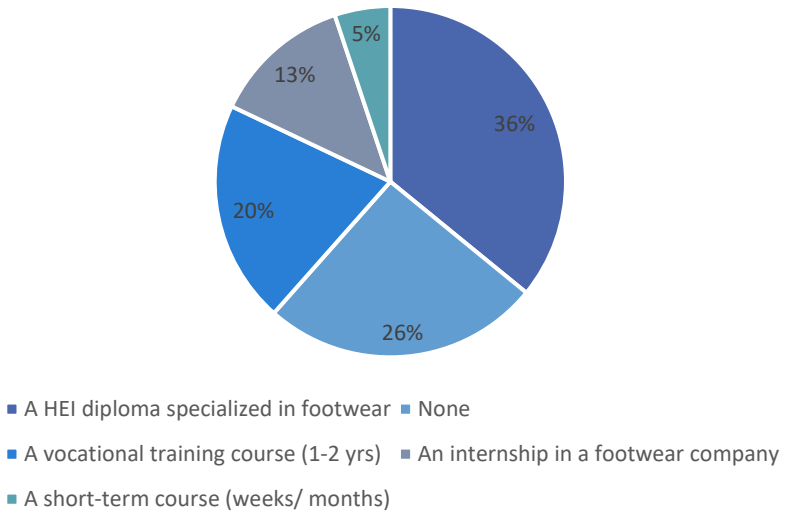
Q.16 Was the training provided by the company you are currently employed?



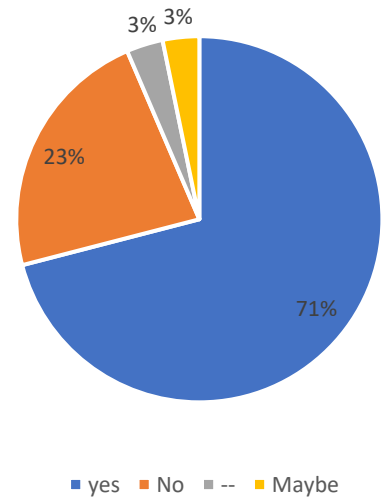
Q17. Who was the training provider?



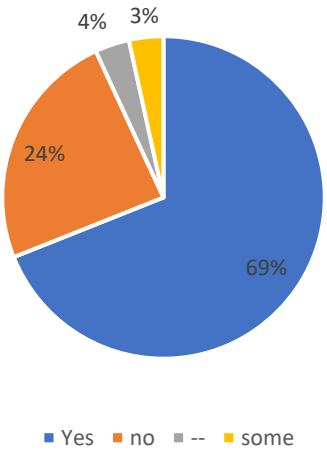
Q18. What kind of training did you receive about footwear prior to your employment in the company?



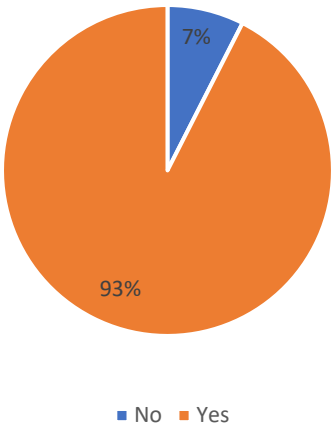
Q.19 Are you aware of any (other) training courses that are available in your area about footwear de



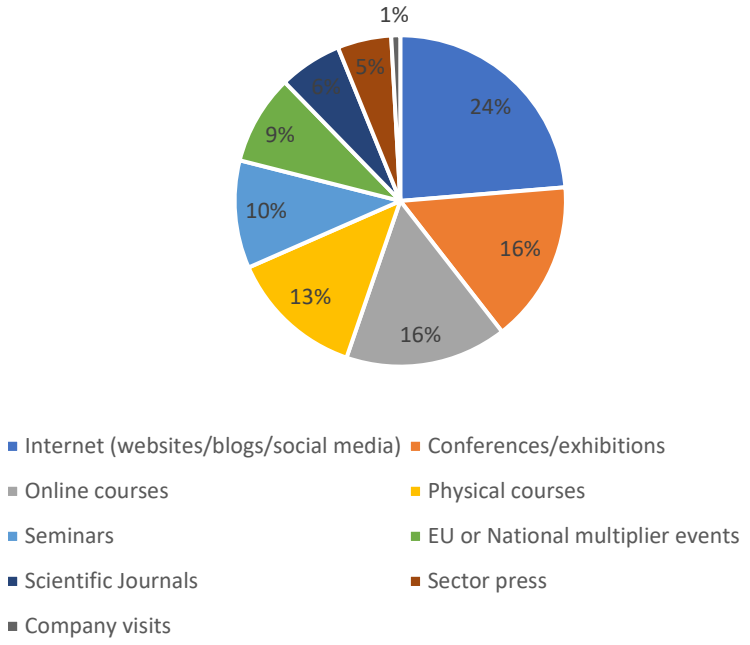
Q.20 Are you aware of any long-distance training courses about footwear DESIGN (online or other)?



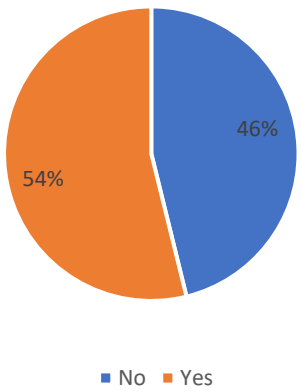
Q.21 Do you follow the latest developments for any of the following: product quality enhancement



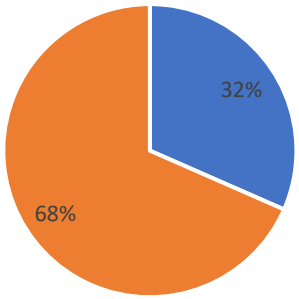
Q22. What is your preferred learning of information?



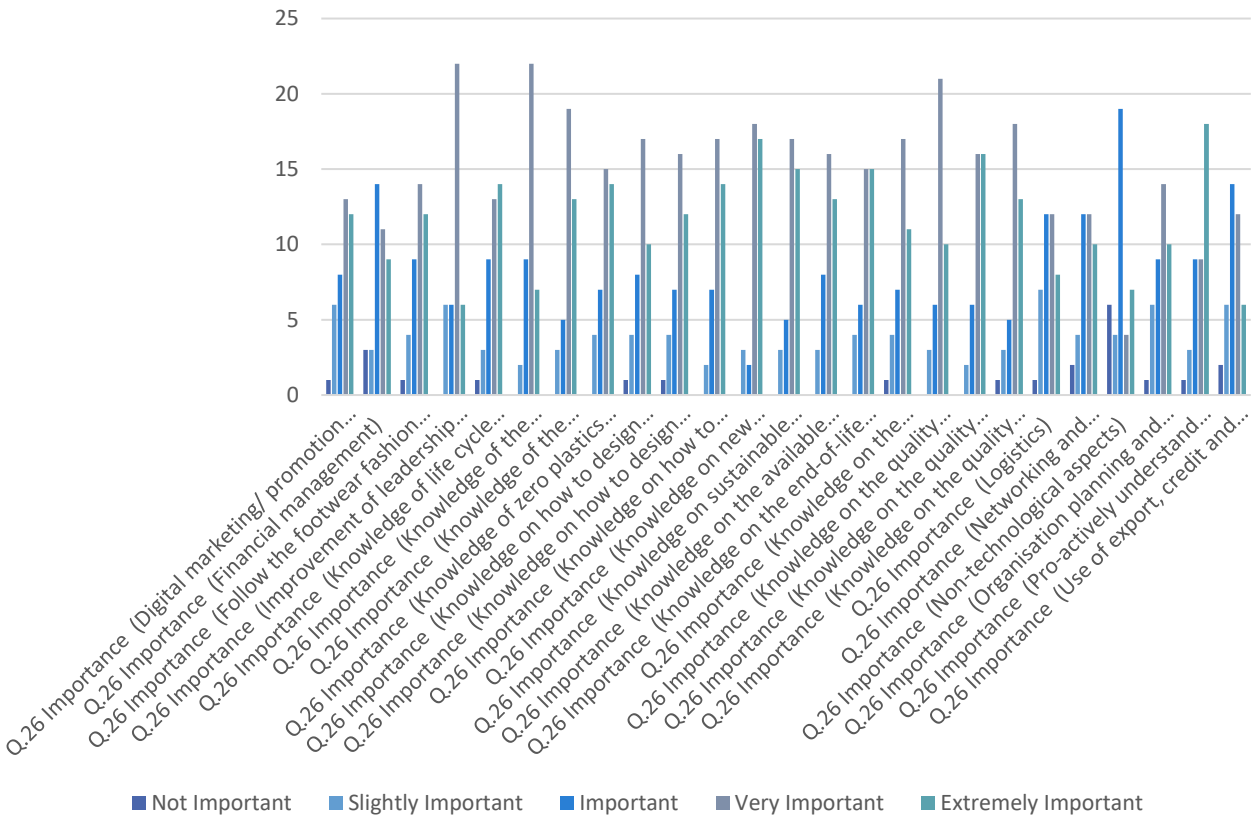
Q.23 Do you believe that the education and/or training provided in your country are sufficient for providing a designer the skills required for working in a modern footwear company?

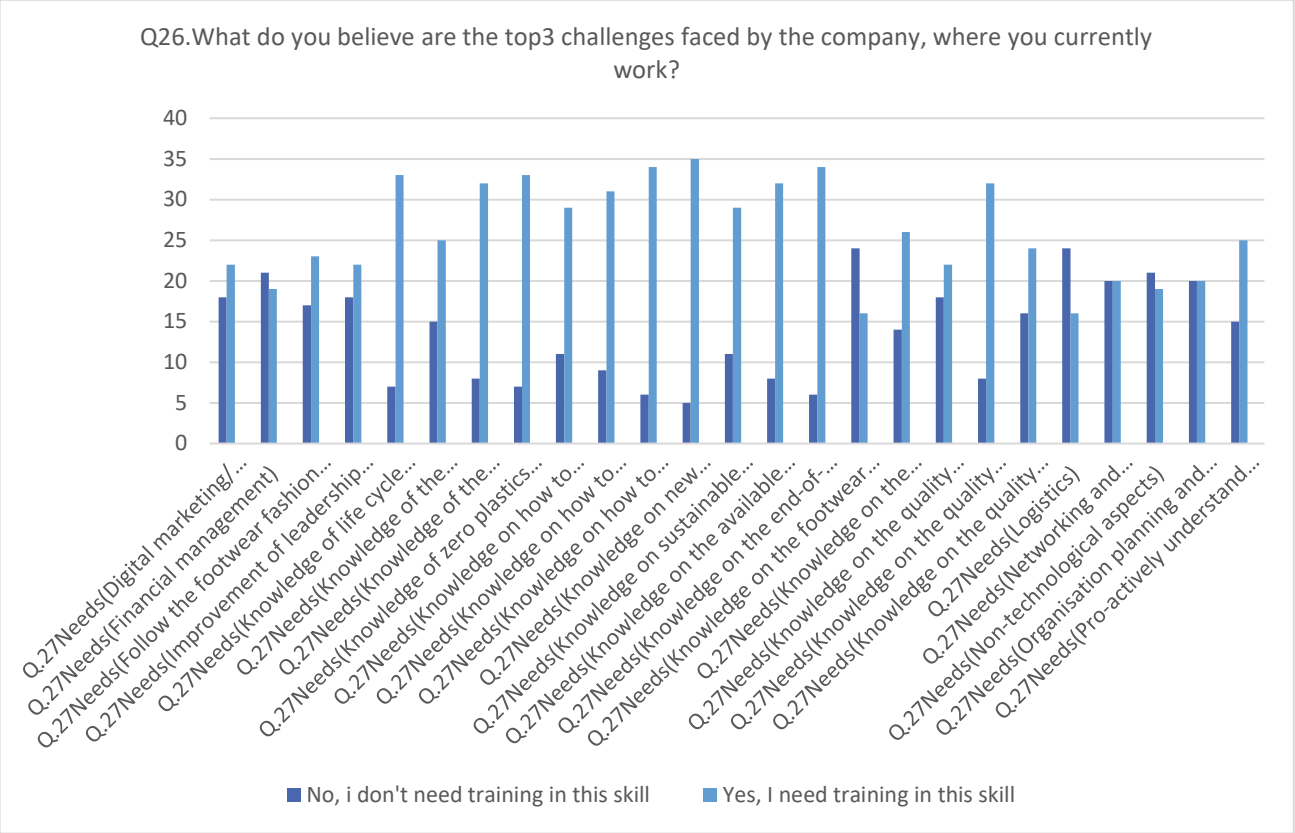


Q.24 To your knowledge, has the company, where you currently work, ever experienced difficulties in finding employees with desired skills?



Q25. Please evaluate the importance of the following skills for YOU and indicate YOUR training needs





8.3 Students

QUESTIONNAIRE FOR ASPIRING DESIGNERS

INTRODUCTION AND CONSENT

The SHODES project aims at promoting both lifelong learning and equal opportunities in the knowledge-based society, as well as the further integration of the European labour market for all relevant professionals. Following an innovative approach in terms of Project Results, the SHOEDES project will enrich an initiative of the Commission, namely ESCO (European Skills, Competences, Qualifications and Occupations). The project shall deliver a set of instruments for the existing and aspiring designers of the footwear industry to receive the most up-to-date and according to the anticipations of required skills and training needs knowledge and information in order to be able to design footwear for the circular economy under a holistic approach.

As part of this effort, SHOEDES is inviting prospective footwear designers to participate in an anonymous survey that will help the partnership identify and address skills gaps and training needs pertaining to existing and new (aspiring) designers of the sector.

All of your responses will be kept strictly confidential. They will only be used for statistical purposes and will be reported only in aggregated form.

The survey will take around 10-15 minutes to complete.

If you have any questions about this survey, or you would like more information about the SHOEDES project, please contact <NAME OF NATIONAL CONTACT PERSON> at <email, telephone number>.

Would you like to receive news from our project (about one email per semester)?

_____ *Yes, my email address is* _____
_____ *No*

SECTION A - Background INFORMATION

First, please provide some background information about yourself.

1. **Year of studies**

- ☐ 1 year
- ☐ 2-3 year
- ☐ 4-5 year
- ☐ 6+ year

2. **Highest educational qualification acquired**

- ☐ Secondary
- ☐ Technical – Vocational training
- ☐ Bachelor's/ University degree
- ☐ Master's degree
- ☐ PhD
- ☐ Other (*Please specify*: _____)

3. **Gender**

- ☐ Male
- ☐ Female
- ☐ Unspecified

4. **Age**

- ☐ Under 25
- ☐ 25-39
- ☐ 40-59
- ☐ Over 60

SECTION B - Place of perspective Employment

5. **In which sub-sector of footwear design would you be interested to work, operate?** *(Select all that apply)*

- ☐ Services to the footwear sector/ Consultancy
- ☐ Trade/ Commerce
- ☐ Manufacture of footwear
- ☐ Manufacture of footwear components
- ☐ Other (*Please specify*: _____)

6. **If you selected "*Services to the footwear sector/ Consultancy*" for Q5, what type of services does the company, where you currently work, provide to the footwear sector?** *(Select all that apply)*

- ☐ Auditing
- ☐ Design
- ☐ Environmental protection, eco-labelling and certification
- ☐ Promotion - Marketing
- ☐ RDI
- ☐ Quality control
- ☐ Training
- ☐ Technology support
- ☐ Other (*Please specify*: _____)

7. **If you selected "*Manufacture of footwear*" for Q5, what type of footwear does the company, where you currently work, produce?** *(Select all that apply)*

In terms of target group:

- ☐ Ladies' shoes
- ☐ Men's shoes
- ☐ Children's shoes

In terms of type of shoes:

- ☐ High fashion shoes
- ☐ Casual shoes
- ☐ Sports shoes
- ☐ Occupational and safety shoes
- ☐ Outdoor and hiking shoes
- ☐ Orthopaedics
- ☐ Therapeutic or prophylactic shoes
- ☐ Other (*Please specify*: _____)

8. **Please indicate if you would be interested in learning about:**

	Yes	No	Don't know
New production equipment	☐	☐	☐
Adoption of new production processes and/ or changes of the existing ones	☐	☐	☐
Adoption of new/ improved technologies to reduce the environmental footprint (waste reduction/ reuse/ recycling technologies, energy efficiency, etc.)	☐	☐	☐
Design and manufacture of new sustainable products	☐	☐	☐
Adoption of new/ changes of existing business – management processes (e.g. quality management, environmental management, etc.)	☐	☐	☐

	Yes	No	Don't know
Increased use of ICT in business operations, i.e. new/ more ICT systems for marketing, design, logistics, supply chain management, planning and production, e-commerce, Customer Relationship Management (CRM)	☐	☐	☐

9. Please indicate if, in the last 5 years, your studies programme, has cooperated with:

	Yes	No	Don't know
Research Centres or Labs	☐	☐	☐
Companies	☐	☐	☐
Training centres	☐	☐	☐
Other (*Please specify*: _____)			

If you answered "*Yes*" for any of the Q12 options, please continue to Q13. Otherwise, please skip to Q14.

10. Please indicate what type of cooperation has been developed *(Select all that apply)*

- ☐ Forecast of skills requirements for the labour market
- ☐ Design of training programs/ Curriculum development
- ☐ Recognition and validation of skills and competences
- ☐ Host of student-interns
- ☐ Placement of graduates
- ☐ Provision of support for students' graduation thesis
- ☐ Sharing and transfer of knowledge from/to company
- ☐ Partnership in Research & Development projects
- ☐ Participation in joint events and/or networks/ clusters/ meetings
- ☐ Development of innovative companies, including spin-offs and start-up companies
- ☐ Other (*Please specify*: _____)

SECTION C - Training background

11. Have you participated in any (formal or informal) type of training/education regarding footwear in the last 5 years outside your studies?

- ☐ Yes
- ☐ No

If you answered "*Yes*" for Q14, please continue to Q15. Otherwise, please skip to Q18.

12. What was the nature/ content of the training?

- ☐ Introduction to footwear design and manufacture
- ☐ Advanced footwear technology and design
- ☐ Sustainable design and/or manufacturing
- ☐ Administrative/ Financial management
- ☐ Marketing/ Sales
- ☐ Research/ Innovation

☐ Other (*Please specify*: _____)

13. Was the training provided by the study programme you are enrolled in?

☐ Yes

☐ No, it was delivered by an external trainer

If you answered "*No*" for Q16, please continue to Q17. Otherwise, please skip to Q18.

14. Who was the training provider?

☐ A Higher Education Institute (HEI)

☐ A training centre (VET provider)

☐ A research centre

☐ An individual expert

☐ Other (*Please specify*: _____)

15. What kind of training did you receive about footwear prior to enrolling in your study programme?

☐ A HEI diploma specialized in footwear

☐ A vocational training course (1-2 yrs)

☐ A short-term course (weeks/ months)

☐ An internship in a footwear company

☐ None

☐ Other (*Please specify*: _____)

16. Are you aware of any (other) training courses that are available in your area about footwear?

☐ Yes (*Please specify*: _____)

☐ No

17. Are you aware of any long distance training courses about footwear (online or other)?

☐ Yes (*Please specify*: _____)

☐ No

18. Do you follow the latest developments for any of the following: product quality enhancement – process optimization – sustainable manufacturing – new business/management techniques – market trends?

☐ Yes

☐ No

If you answered "*Yes*" for Q21, please continue to Q22. Otherwise, please skip to Q23.

19. What is your preferred learning method? *(Select all that apply)*

☐ Sector press

☐ Scientific Journals

☐ Conferences, exhibitions

- ☐ Internet (websites, blogs, social media)
- ☐ Seminars
- ☐ EU or National multiplier events
- ☐ Other (*Please specify*: _____)

20. Do you believe that the education and/or training provided in your country are sufficient for providing a designer the skills required for working in a modern footwear company?

- ☐ Yes
- ☐ No

21. To your knowledge, have companies in the sector ever experienced difficulties in finding employees with desired skills?

- ☐ Yes
- ☐ No

SECTION D - Need for new skills and further training

22. Please evaluate the importance of the following skills for YOU and indicate YOUR training needs.

Knowledge/ skill	Importance of the knowledge/ skill					Need for training on this skill	
	Not Important	Slightly Important	Important	Very Important	Extremely Important		
	1	**2**	**3**	**4**	**5**	**Yes**	**No**
Technological							
Knowledge on the footwear products' processes and related technology/machinery, including all phases of footwear manufacturing and different types of construction, design techniques, raw materials and components	☐	☐	☐	☐	☐	☐	☐
Knowledge on sustainable materials and components	☐	☐	☐	☐	☐	☐	☐
Knowledge on new manufacturing technologies and processes, including eco-design	☐	☐	☐	☐	☐	☐	☐
Knowledge of Life Cycle Analysis and Circular Economy principles	☐	☐	☐	☐	☐	☐	☐
Knowledge of mass customisation techniques	☐	☐	☐	☐	☐	☐	☐
Quality							
Knowledge on the quality characteristics of "traditional" materials and how to evaluate them	☐	☐	☐	☐	☐	☐	☐
Knowledge on the quality characteristics of new, eco-friendly, materials and how to evaluate them	☐	☐	☐	☐	☐	☐	☐
Knowledge on the quality controls available for footwear products	☐	☐	☐	☐	☐	☐	☐
Environmental aspects							

Knowledge/ skill	Importance of the knowledge/ skill					Need for training on this skill	
	Not Important	Slightly Important	Important	Very Important	Extremely Important		
	1	**2**	**3**	**4**	**5**	**Yes**	**No**
Knowledge of the environmental legislation and standards	☐	☐	☐	☐	☐	☐	☐
Knowledge on the available methods for improving the environmental performance throughout the manufacturing process	☐	☐	☐	☐	☐	☐	☐
Knowledge of sustainable materials to use in footwear design	☐	☐	☐	☐	☐	☐	☐
Research & Innovation							
Knowledge on the procedures and tools available for a Research and Development Management System, including new product development, technology development, process development, technological transfer	☐	☐	☐	☐	☐	☐	☐
Knowledge on how to design and implement projects in relation to the latest developments on new materials and components for footwear	☐	☐	☐	☐	☐	☐	☐
Knowledge on how to design and implement projects in relation to the latest developments on new manufacturing technologies and business models	☐	☐	☐	☐	☐	☐	☐
Non-technological aspects							
Follow the footwear fashion and market trends	☐	☐	☐	☐	☐	☐	☐
Pro-actively understand customers' and market needs	☐	☐	☐	☐	☐	☐	☐
Logistics	☐	☐	☐	☐	☐	☐	☐
Digital Marketing/ promotion of products through new ICTs and social media	☐	☐	☐	☐	☐	☐	☐
Networking and development of synergies with other entities (e.g. universities, research centres, etc.)	☐	☐	☐	☐	☐	☐	☐
Financial Management	☐	☐	☐	☐	☐	☐	☐
Organisation Planning and Time Management	☐	☐	☐	☐	☐	☐	☐
Improvement of leadership skills	☐	☐	☐	☐	☐	☐	☐
Use of export, credit and financial instruments enabling to industrialize and commercialize the innovation results	☐	☐	☐	☐	☐	☐	☐
Other skills *(Please specify)*							

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SECTION E – further information

23. Would you like to be notified with the results for this survey?

☐ Yes

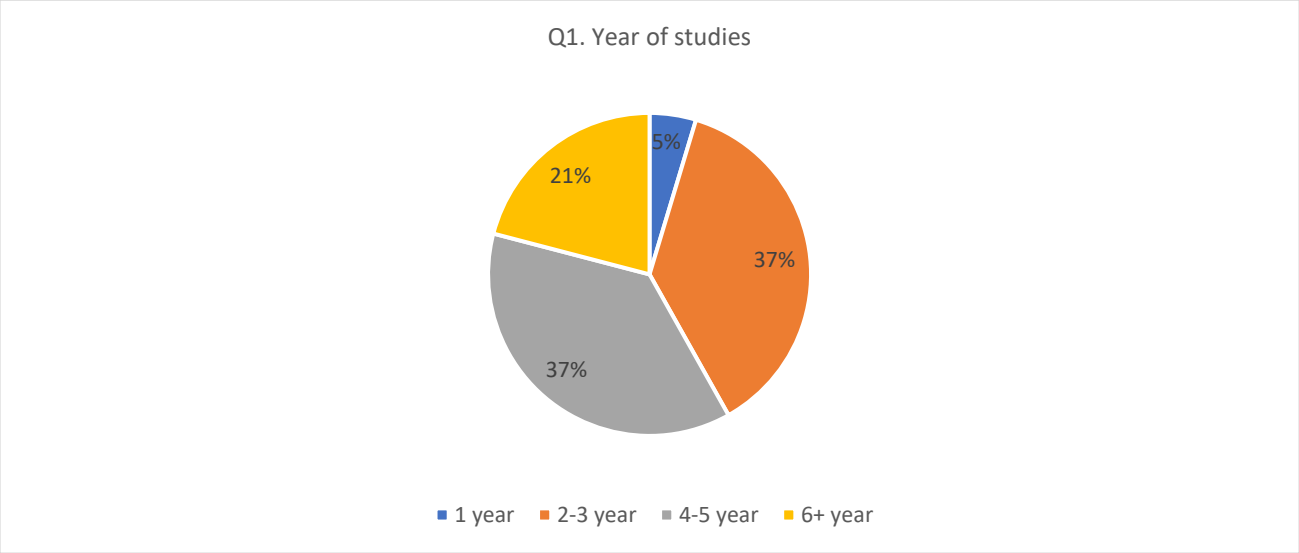
☐ No

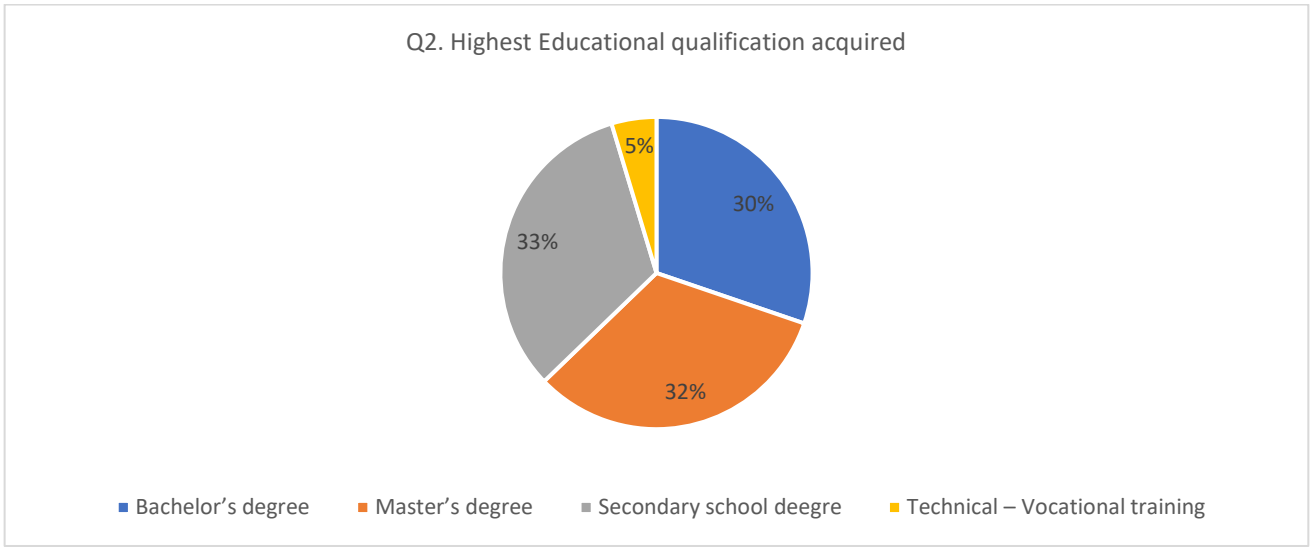
24. If you answered "Yes", please provide us with your email address here: _____

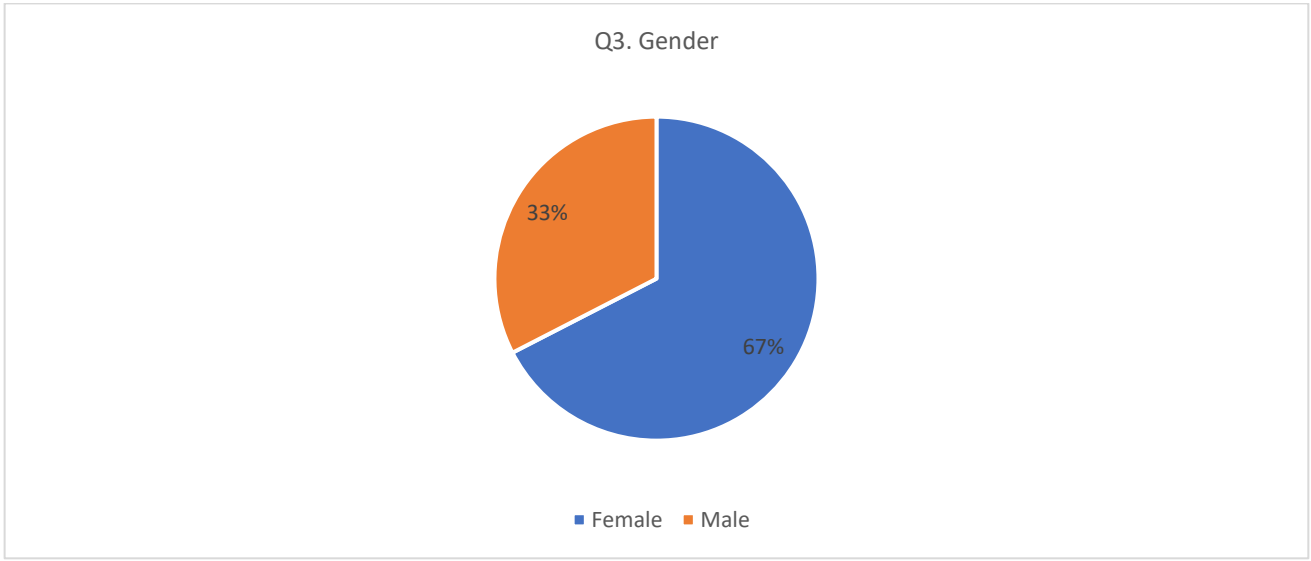
25. The Last Word is Yours: Do you want to elaborate on any of your answers or make additional comments?

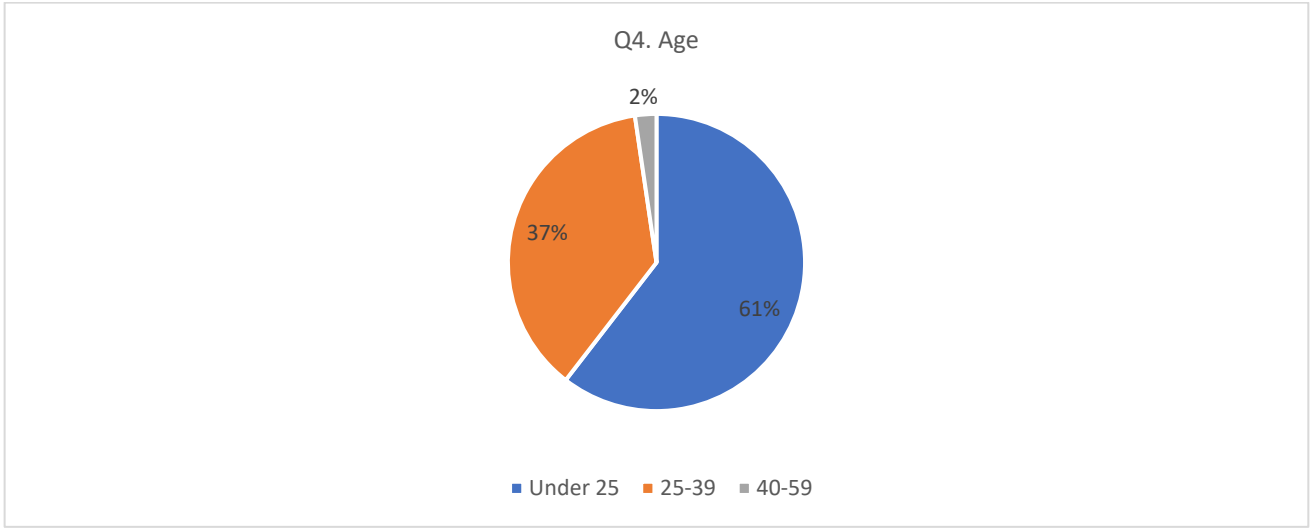
Thank you for taking the time to complete this survey!

Results from Students

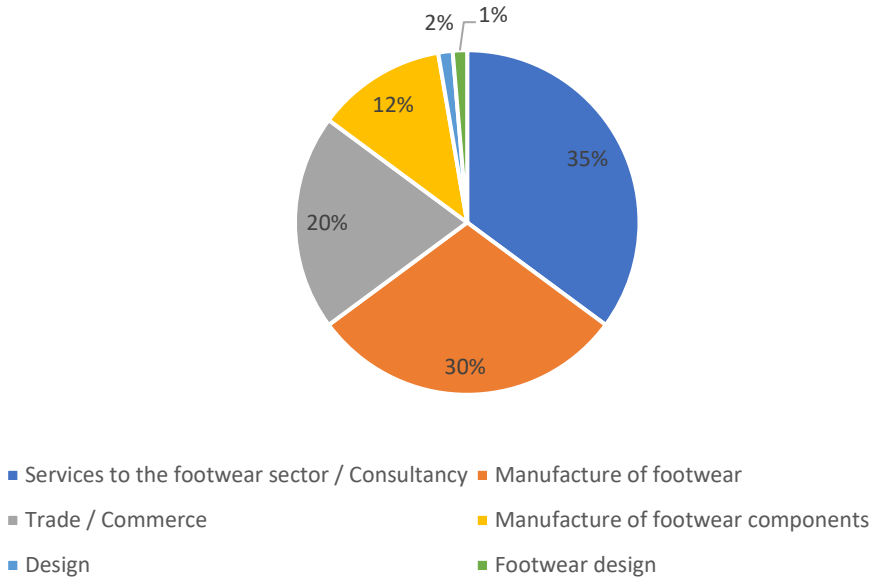



Q2. Highest Educational qualification acquired
5%
30%
33%
32%
Bachelor's degree
Master's degree
Secondary school deegre
Technical – Vocational training

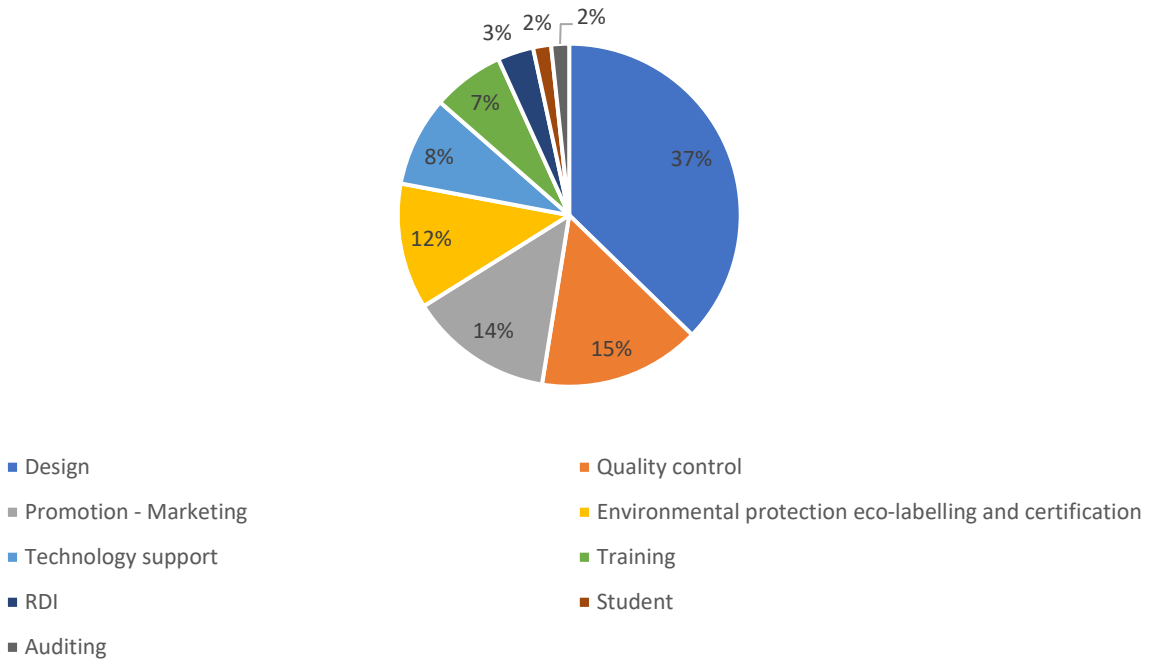

Q3. Gender
33%
67%
Female
Male


Q4. Age
2%
37%
61%
Under 25
25-39
40-59

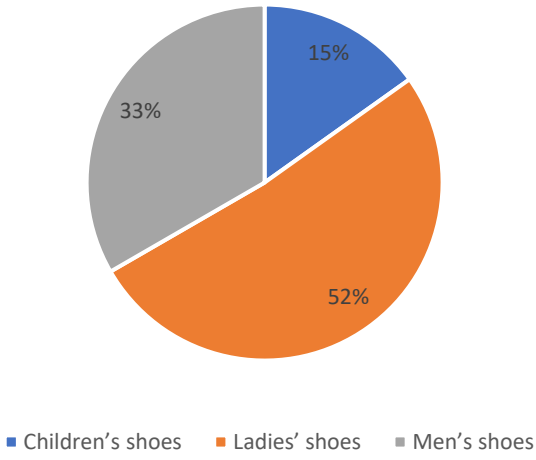
Q5. In which sub-sector of footwear design would you be interested to work/oper



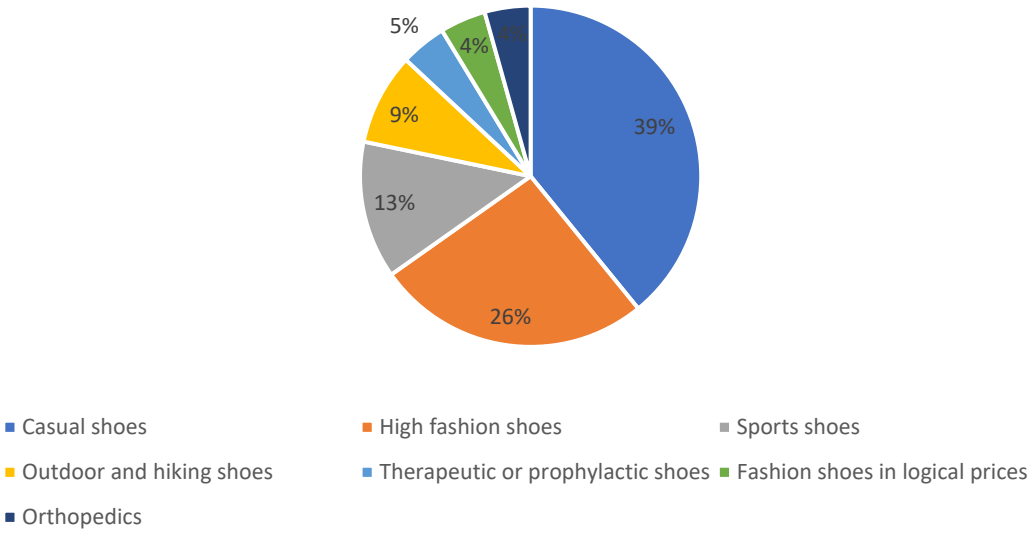
Q6. If you selected "Services to the footwear sector/ Consultancy" for Q5



Q7. If you selected "Manufacture of footwear" for Q5, what type of footwear does



Q8. If you selected "Manufacture of footwear" for Q5, what type of footwear does the company, where



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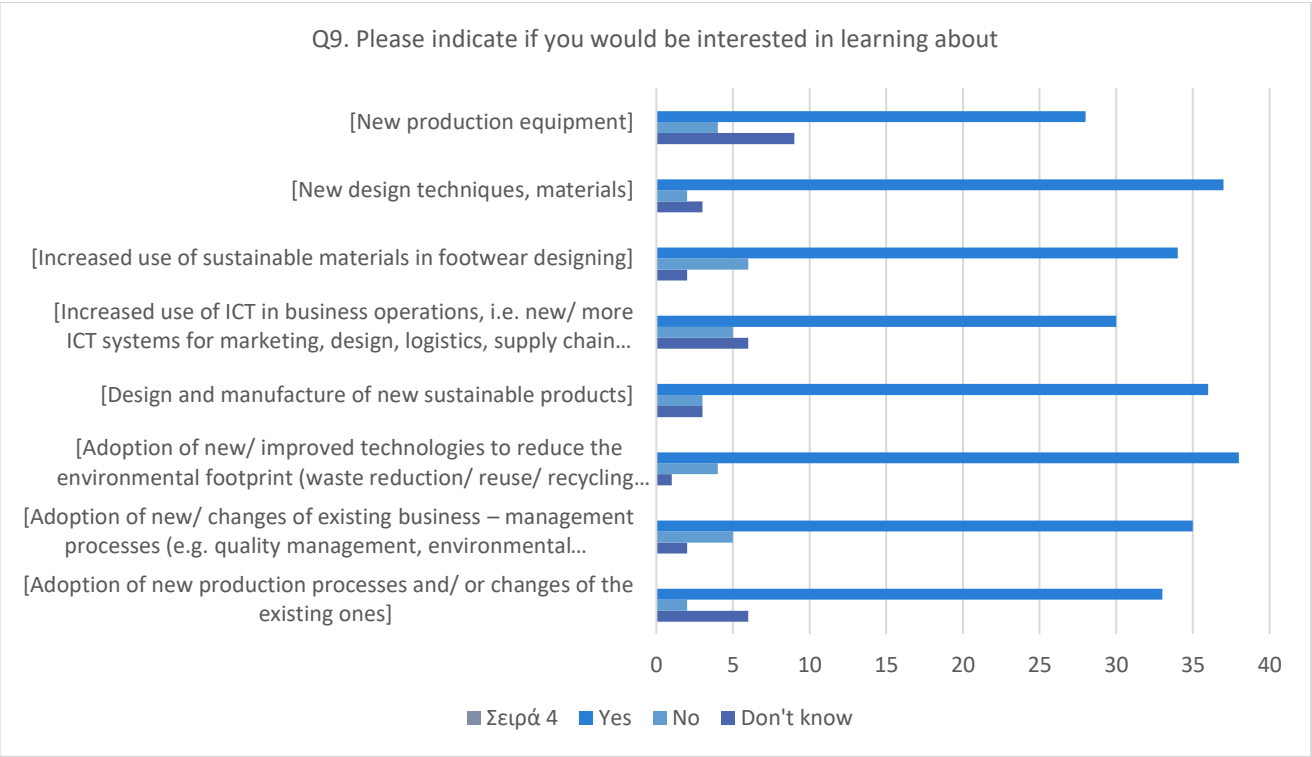
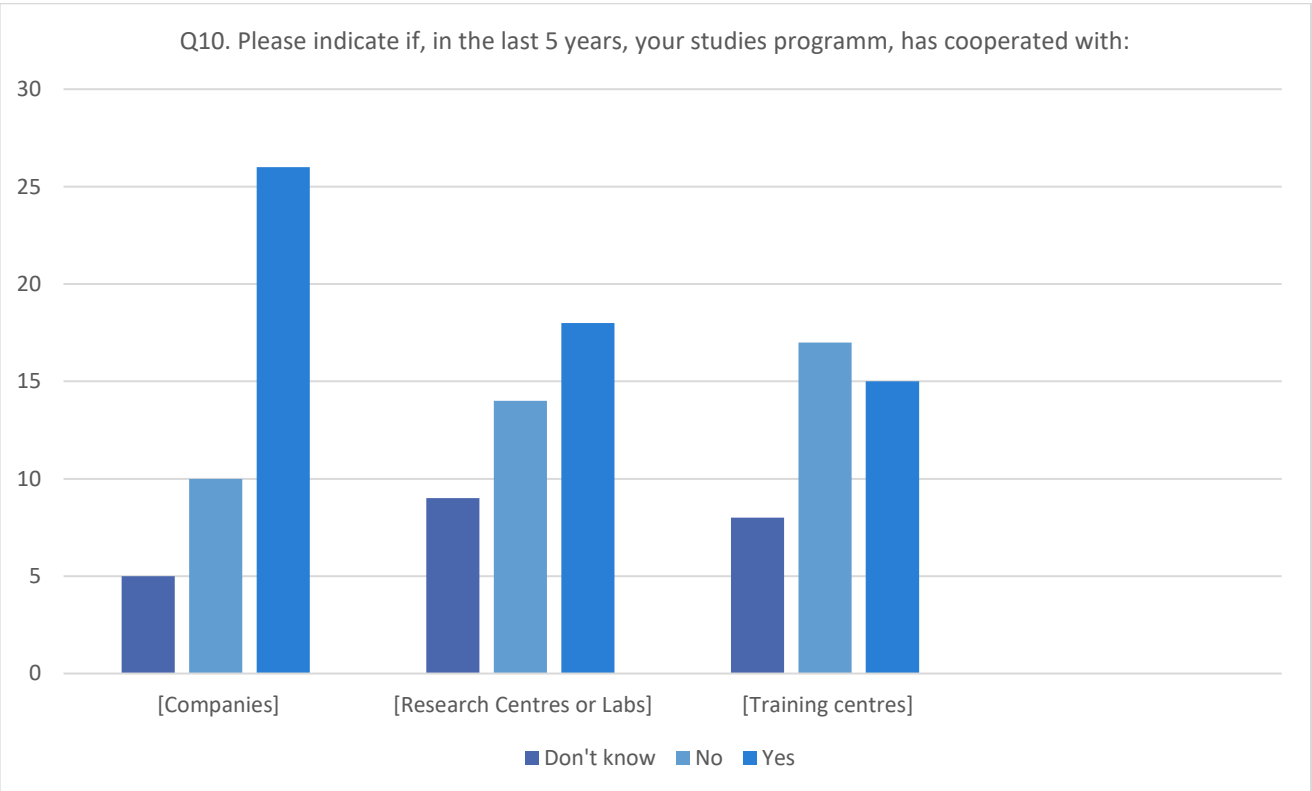
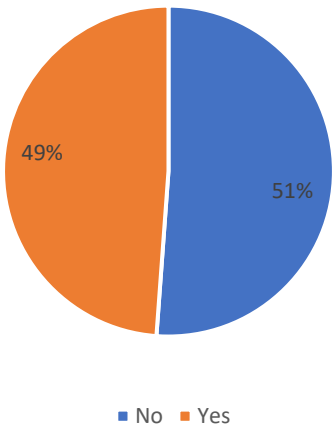

Q9. Please indicate if you would be interested in learning about
[New production equipment]
[New design techniques, materials]
[Increased use of sustainable materials in footwear designing]
[Increased use of ICT in business operations, i.e. new/ more ICT systems for marketing, design, logistics, supply chain...
[Design and manufacture of new sustainable products]
[Adoption of new/ improved technologies to reduce the environmental footprint (waste reduction/ reuse/ recycling...
[Adoption of new/ changes of existing business – management processes (e.g. quality management, environmental...
[Adoption of new production processes and/ or changes of the existing ones]
0
5
10
15
20
25
30
35
40
Σειρά 4
Yes
No
Don't know

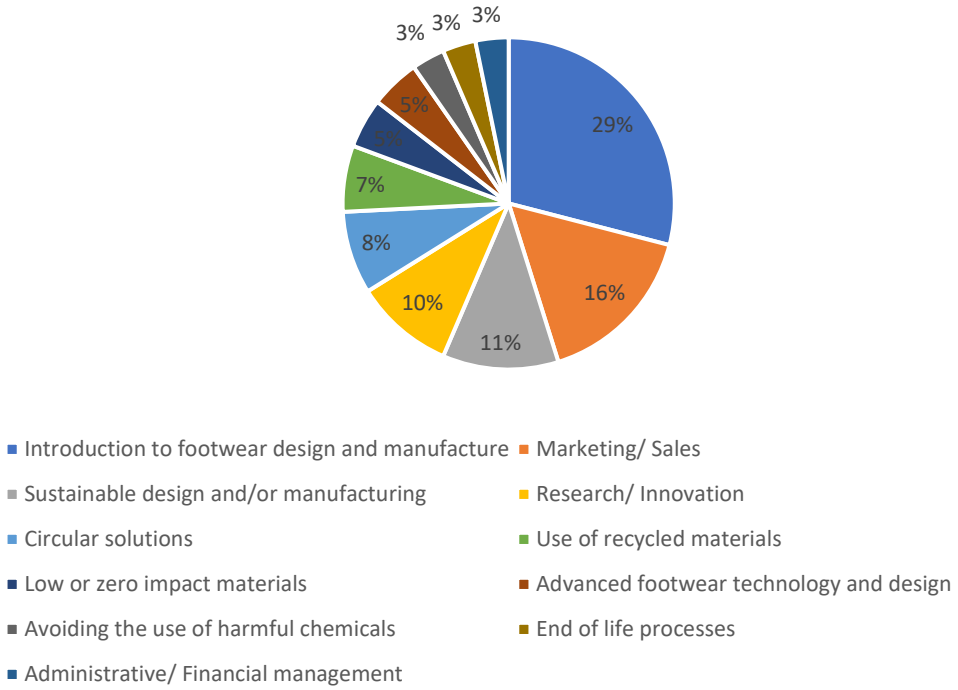

Q10. Please indicate if, in the last 5 years, your studies programm, has cooperated with:
30
25
20
15
10
5
0
[Companies]
[Research Centres or Labs]
[Training centres]
Don't know
No
Yes

Q11. Please indicate what type of cooperation has been developed:

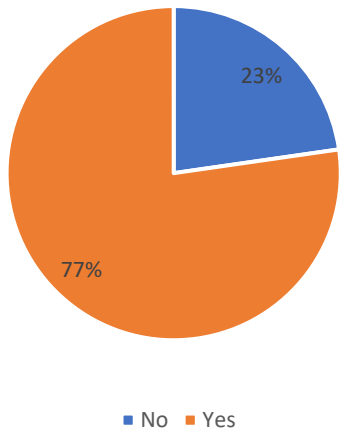
Q12. Have you participated in any (formal or informal) type of training/education regarding footwear?



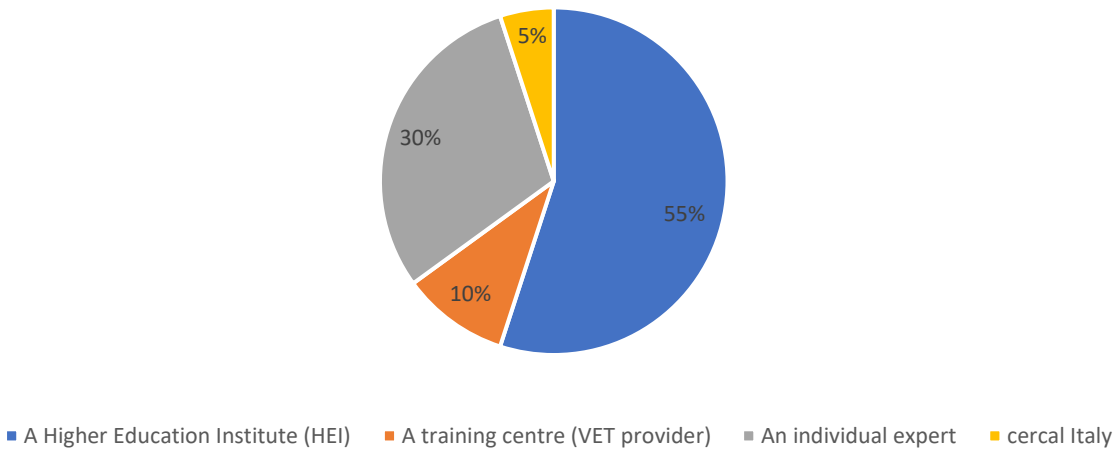
Q13. What was the nature of the training?



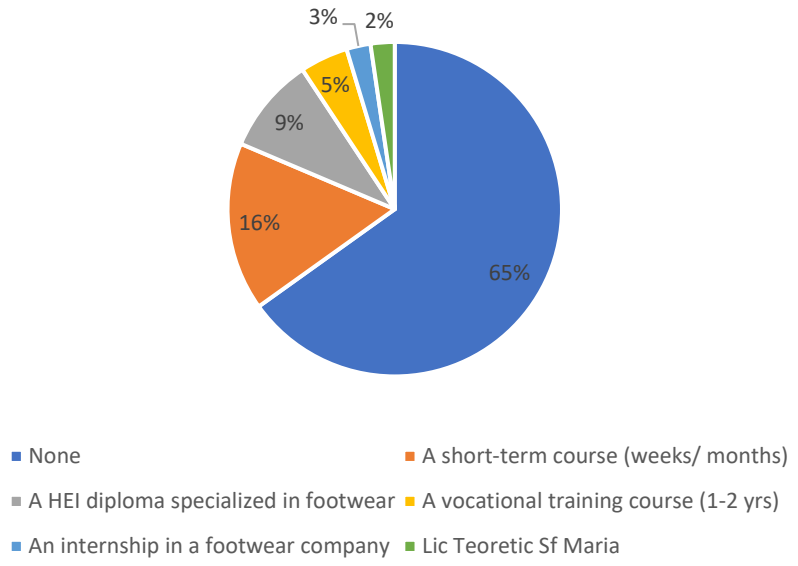
Q14. Was the training provided by study programme you are enrolled in?



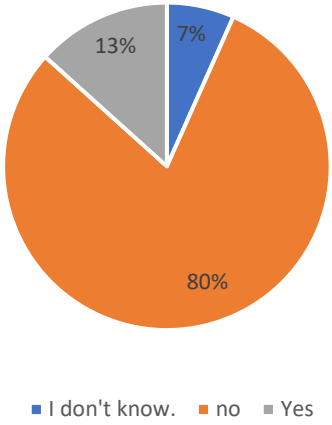
Q15. Who was the training provider?



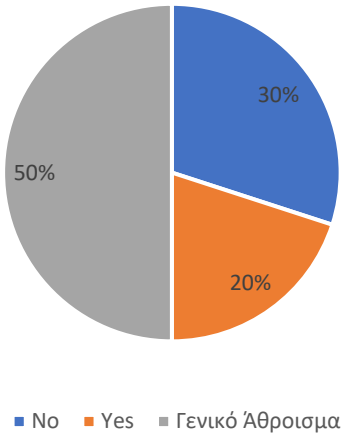
Q16. What kind of training did you receive about footwear prior to enrolling in your study programme?



Q17. Are you aware of any (other) training courses that are available in your area about footwear design



Q18. Are you aware of any long-distance training courses about footwear DESIGN (online or other)?



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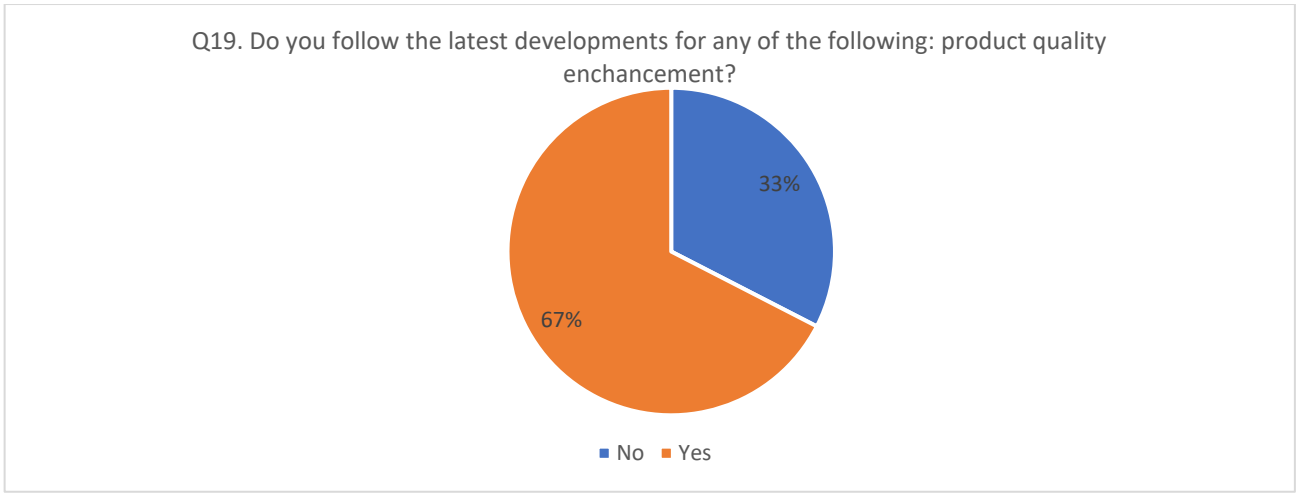
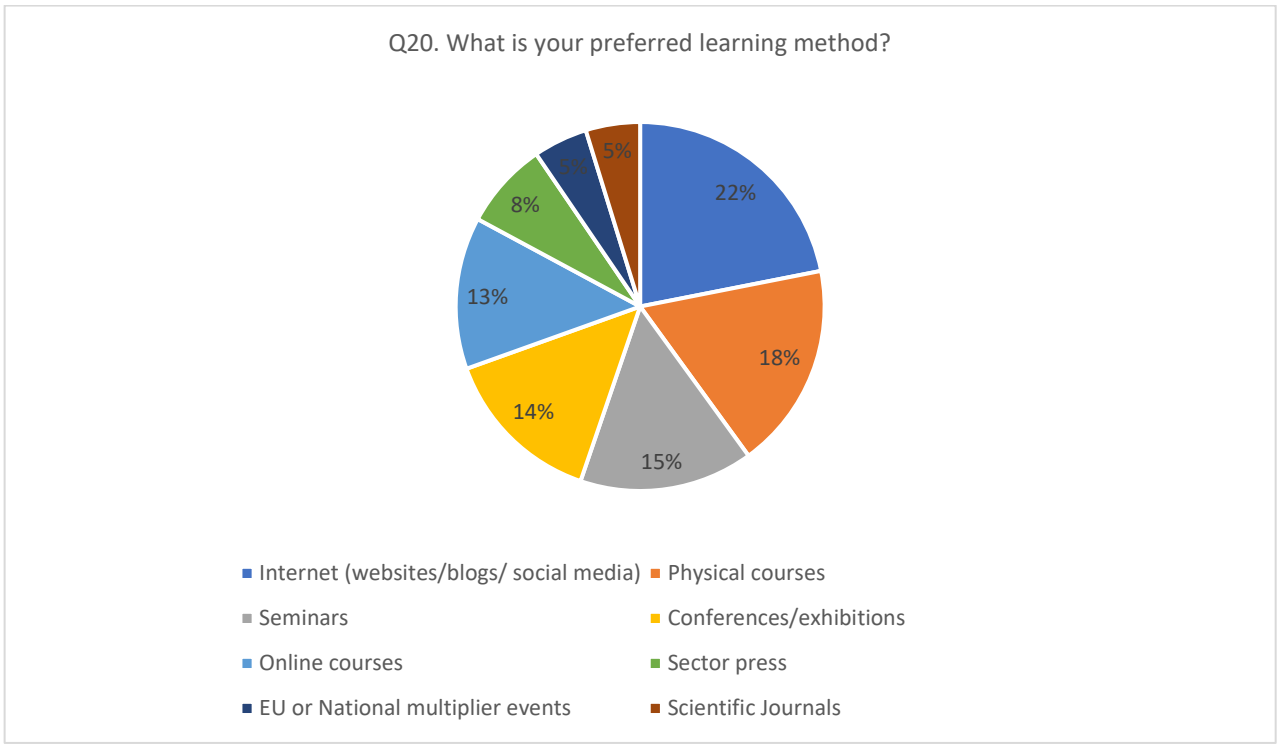
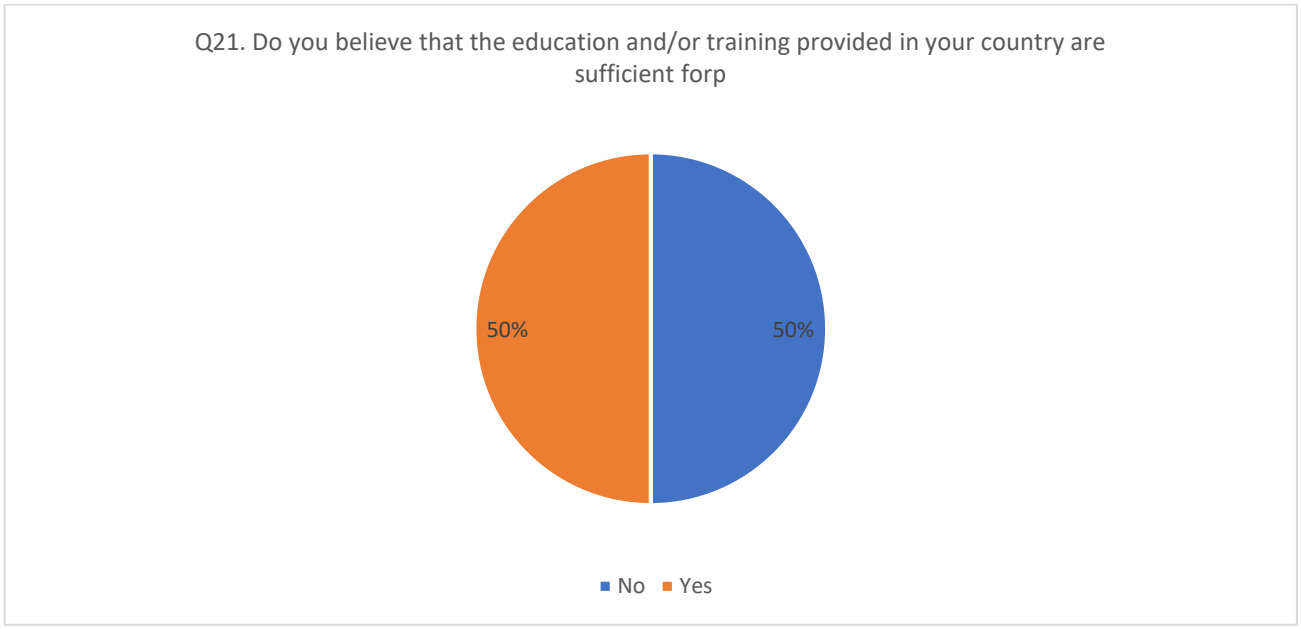
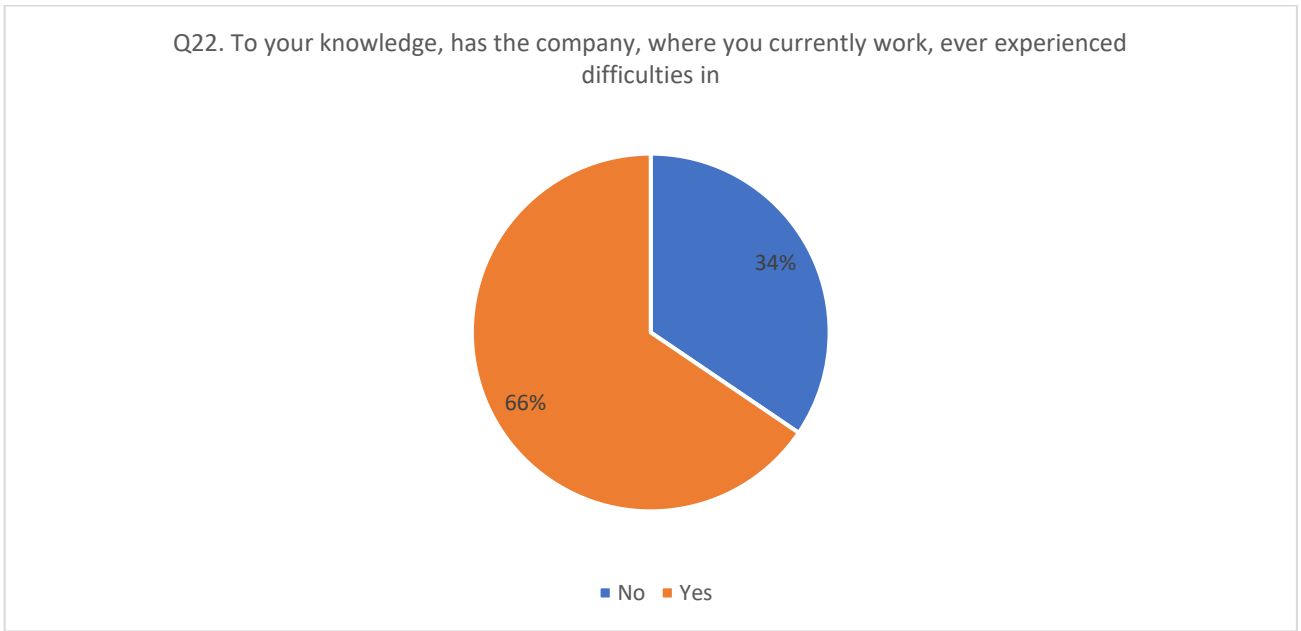
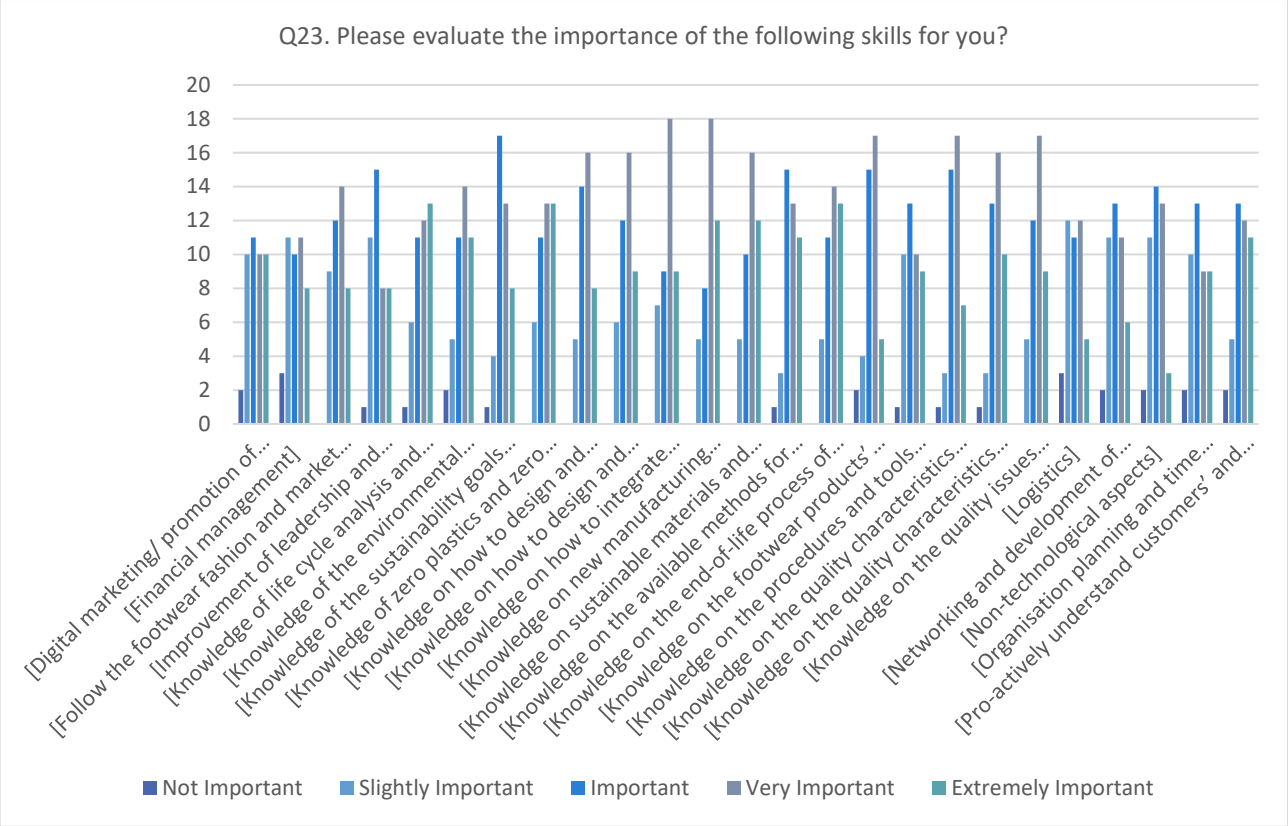
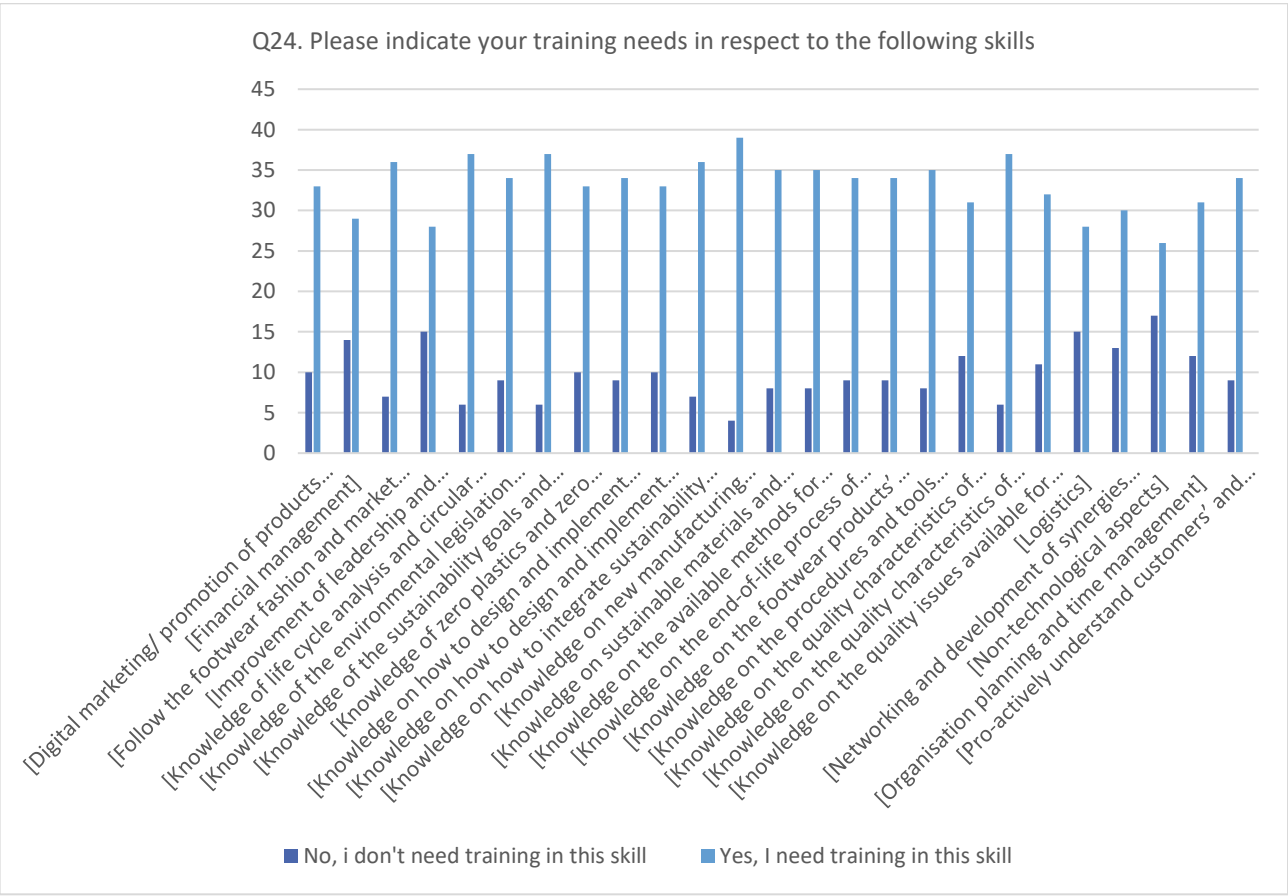

Q19. Do you follow the latest developments for any of the following: product quality enchancement?
33%
67%
No
Yes


Q20. What is your preferred learning method?
22%
18%
15%
14%
13%
8%
5%
5%
Internet (websites/blogs/ social media)
Physical courses
Seminars
Conferences/exhibitions
Online courses
Sector press
EU or National multiplier events
Scientific Journals


Q21. Do you believe that the education and/or training provided in your country are sufficient forp
50%
50%
No
Yes


Q22. To your knowledge, has the company, where you currently work, ever experienced difficulties in
34%
66%
No
Yes





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20recycle%20standard&gclid=CjwKCAiA5sieBhBnEiwAR9oh2hdHgRXbs9r_O77WQTXzY42MOgSiMzh9LrUIzCQJ1l1LmKSH-UAjLhoCCyIQAvD_BwE

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9 Annex

Annex 1 list of educational programmes

9.1.1. Footwear and Accessories Design – State University of New York (FIT)

Study program *Title*:	Footwear and Accessories Design Footwear and Accessories Design AAS Footwear and Accessories Design BFA
Institution providing the study program:	State University of New York (FIT)
Website:	https://www.fitnyc.edu/academics/academic-divisions/art-and-design/footwear-accessories-design/index.php
Entry requirements (Qualifications):	Secondary level, undergraduate
Duration:	1 year
Detailed Learning Content (Curriculum):	See below for each format
Key Learning Outcomes:	To create footwear, handbags, and small leather goods from concept to finished product; focus on sustainability
Other information, particularly relevant to the SHOEDES project:	Close ties to the industry; offers a wide range of networking and career opportunities; exploring technology, advanced materials, and sustainability

Description

"Fashion specialists know it's the shoes, handbag, belt, and hat that make the outfit. But what matters as much as a great look? Super performance. How these pieces work on the body makes a huge difference to how the wearer walks, runs, moves, feels, and lives"

This program nurtures the footwear designer vision while teaching skills on creating marketable products. With close ties to the industry, the course connects the participants with a wide range of networking and career opportunities. Participants will learn to create footwear, handbags, and small leather goods from concept to finished product, while exploring technology, advanced materials, and sustainability. Design is pushed to the limit, creating not just for fashion but also function, sustainability, and innovation.

Footwear and Accessories Design AAS

The students can design and produce a full range of accessories, from footwear to handbags to belts. This program prepares you for an entry-level position in design, sample making, or patternmaking, or to apply for a BFA in Footwear and Accessories Design.

Footwear and Accessories Design BFA

The BFA offers advanced, hands-on study of design, incorporating non-traditional and sustainable materials along with traditional ones The students can visit prominent showrooms, design studios, and production sites in the fashion and design capital of the world. A required internship provides industry experience. The student can graduate with a professional-quality portfolio.

Besides the Classroom

Students have interned at Kenneth Cole, Coach, Converse, The Row, Steve Madden, and Kate Spade. Graduates of the AAS program become designers, stylists, product-line builders, merchandisers, and production assistants. BFA graduates hold positions as lead designers, creative directors, senior merchandisers, stylists, senior sample makers, technical designers, head patternmakers, heads of multidivisional companies, and vice presidents.

Internationalisation level

FIT enjoys international recognition for the quality of its programs and the calibre of its graduates. At FIT, you're connected, through a faculty of industry professionals and extensive networking opportunities. As a result, FIT graduates have a higher-than-average job placement rate.

Graduates in Footwear and Accessories Design hold positions as assistant or full-fledged designers of shoes, handbags, belts, and small leather goods; stylists; merchandisers for manufacturers or retailers; product-line builders; production personnel; lead patternmakers; and entrepreneurs.

Graduates have been placed at major companies including: The Row, Coach. Marc Jacobs, Tory Burch, Kith, Nike, Alexander Wang, Tommy Hilfiger, Ralph Lauren, Steve Madden

Equipment and Labs:

FIT students have additional resources such as design encyclopaedias as well as a collection of physical samples and is expanding to include a virtual reality (VR) terminal that allows students to view, walk through, and analyse 3D models, architectural designs, and patterns. The use of the VR terminal will require some training and instruction, which students can sign up for in advance through the Interior Design Department.

9.1.2.BA (Hons) Cordwainers Footwear – University of the Arts London (UAL)

Study program *Title*:	BA (Hons) Cordwainers Footwear
Institution providing the study program:	University of the Arts London (UAL)
Website:	https://www.arts.ac.uk/subjects/accessories-footwear-and-jewellery/undergraduate/ba-hons-cordwainers-footwear-lcf
Entry requirements (Qualifications):	Secondary level, undergraduate
Duration:	3 years - It runs for 90 weeks in full time mode. It is divided into 3 stages over 3 academic years. Each stage lasts 30 weeks.
Detailed Learning Content (Curriculum):	In Stage 1 students are required to complete 120 credits at level 4 in order to progress to Stage 2. ▪ Introduction to Footwear (20 credits) ▪ Product Design and Technologies (40 credits) ▪ Product Creativity (20 credits) ▪ Better Lives (20 credits) ▪ Fashion Cultures and Histories (20 credits) ▪ In Stage 2 students are required to complete 120 credits of which a minimum of 100 must be at level 5. ▪ Professional Practice (40 credits) ▪ Critical Issues in Fashion Research (20 credits) ▪ Creative Design (20 credits)

	▪ Industry Project (40 credits) ▪ In Stage 3 students are required to complete 120 credits at level 6. ▪ Concept Vision (40 credits) ▪ Contextualising Your Practice (20 credits) ▪ Concept Realisation (60 credits) ▪ On successful completion of Stage 2 students are offered the option of a professional placement leading to an extra qualification; the Diploma in Professional Studies. The Diploma in Professional Studies carries 120 credits, and constitutes an independent award. Credits achieved on the Diploma are not part of the final degree award.
Key Learning Outcomes:	Research, to produce initial design ideas, and to develop designs through to a finished 3D prototype; communication and business skills
Other information, particularly relevant to the SHOEDES project:	Comprehensive understanding of the fashion footwear industry; Live projects set by industry will include presentations to and from the companies involved; placement year between the second and final year of the course; opportunity to make contacts and build relationships within the industry

Description

BA (Hons) Cordwainers Footwear foster skills for a successful career in a multitude of roles from product and footwear designer to technical roles within this specialist industry.

University of the Arts London

University of the Arts London (UAL) is an internationally renowned institution with a fantastic reputation for its courses in fashion in particular, along with the fields of art, design, communication, screen, media, performing arts. The university has a diverse student body of 18,000 undergraduate and postgraduate students, with representation for over 130 countries. The institution has a rich history of over 100 years of quality teaching across its various faculties: Camberwell College of Arts Central Saint Martins Chelsea College of Arts London College of Communication London College of Fashion Wimbledon College of Arts UAL Creative Computing Institute. The university is situated in London, which as a creative and cultural capital makes it the perfect home for this vibrant institution.

BA (Hons) Cordwainers Footwear: Product Design and Innovation students will learn the skills to research, to produce initial design ideas, and to develop designs through to a finished 3D prototype. They will gain a comprehensive understanding of the fashion footwear industry, its markets, and the particular role of the fashion footwear product designer within the industry. Includes communication and business skills. Live projects set by industry will include presentations to and from the companies involved. Option of doing a placement year between the second and final year of the course and an additional qualification. Opportunity to make contacts and build relationships within the industry. The Cordwainers and Leather sellers livery companies support Cordwainers courses through prizes, scholarships and industrial visits. This course focuses on producing graduates who can make an innovative contribution to accessory product development. Through teaching, specialist research, and collaborative work, we empower our students to think differently, using fashion to examine the past, build a sustainable future, and improve the way we live.

Career preparation: excellent vocational preparation for a career in innovative footwear design.

Facilities: unrivalled access to specialist facilities appropriate to the industry.

Sustainability: supports students to learn and develop new more sustainable practices, working at the forefront of changes within the industry.

Where graduates have gone on to work: recent Footwear graduates have gone on to work for Nicholas Kirkwood, Kurt Geiger, Jimmy Choo and Malone Souliers.

This course focuses on producing graduates who are encouraged to make an innovative and visionary contribution to footwear product development within the fashion industry.

The Cordwainers and Leather sellers livery companies support the Cordwainers courses through prizes, scholarships and industrial visits.

Work experience and opportunities

There is an opportunity to undertake an optional industry placement year between the second and final year of the course which will enhance the employability of students by offering valuable experience and contacts within the industry as well as earning an additional Diploma in Professional Studies qualification.

Learning and teaching methods

The following teaching and learning methods are employed to support the integrated achievement of the course outcomes:

- Lectures.
- Seminars.
- Tutorials.
- Group and individual projects.
- Critiques.
- Peer group presentations.
- Practical workshops.
- Demonstrations.
- Open access work.
- Visiting speakers.
- Field trips.
- Self-directed study.
- Reflection and self-evaluation.
- Assessment methods

9.1.3.BA (Hons) in Footwear Design by De Montfort University – De Montfort University (DMU)

Study program *Title*:	BA (Hons) Cordwainers Footwear
Institution providing the study program:	De Montfort University (DMU)
Website:	https://www.dmu.ac.uk/study/courses/undergraduate-courses/footwear-design-ba-degree/footwear-design-ba-degree.aspx
Entry requirements (Qualifications):	Secondary level, undergraduate
Duration:	3 years
Detailed Learning Content (Curriculum):	Year one | Year two | Year three ▪ Block 1: Design Fundamentals

	▪ Block 2: Technical Exploration ▪ Block 3: Manufacturing Development ▪ Block 4: Design Communication ▪ Block 5: Bespoke Principles ▪ Block 6: Design Concepts ▪ Block 7: Design Innovations ▪ Block 8: Concept Realisation ▪ Block 9: Conceptual Inquiry ▪ Block 10: Creative Realisation ▪ Block 11 and Block 12: Design Resolution
Key Learning Outcomes:	Shoe design and technical making skills will be developed, emphasising the crucial relationship between design and manufacture and the needs of the footwear industry; specialise in performance footwear, which is unique for a UK university, or men's, women's, or children's footwear. develop drawing and illustration, bespoke biomechanics and model prototyping skills, along with the ability to present and communicate ideas and concepts to a high professional standard; technical modern shoemaking skills and make a range of prototype shoes using excellent specialist studio facilities, including 3D design equipment.
Other information, particularly relevant to the SHOEDES project:	Comprehensive understanding of the fashion footwear industry; Live projects set by industry will include presentations to and from the companies involved; placement year between the second and final year of the course; opportunity to make contacts and build relationships within the industry; Block learning and teaching; Global reputation with industry experts

Description

With a rich history from the late 1800s to today's footwear business, this degree help participants to gain the needed skills and expertise to stand out in the fashion industry, envisaging to obtain vital insights into new goods and technology by collaborating with industry experts and significant businesses. Shoe engineering and design-making skills will be honed throughout the course, stressing the critical interaction between design and production, as well as the needs of the footwear market. It includes performance footwear, which is unique for a UK university, or men's, women's, or children's footwear. Focused on develop drawing and illustration, bespoke biomechanics, and model prototyping skills, along with the ability to present and communicate ideas and concepts to a high professional standard.

De Montfort University (DMU), Leicester, UK offers a whole range of undergraduate, postgraduate and research courses.

Of course, one size doesn't fit all, and there will be variations based on the professional requirements of the course.

Learning methods:

Block learning and teaching benefits include:

- Achieving better outcomes/grades
- Focused learning
- Dedicated teacher contact time
- Regular and faster feedback
- A stronger learning community
- Supports study life balance and wellbeing needs
- More opportunities to develop your skills

Beyond classroom

Benefit from opportunities to enter prestigious national and international competitions to boost your industry exposure. Previous graduates have won a number of accolades, including first prizes at the Lineapelle Footwear Competition, the prestigious Bata International Design Award and the Moda Footwear Competition.

This course has a global reputation with industry experts, with recent graduates employed as designers, buyers and agents for well-known names, including Alexander McQueen, Stella McCartney and Kurt Geiger.

International students at DMU

Every year thousands of international students from more than 130 countries take the course. Located in the city of Leicester, a campus-based university in the city centre, with the hub of activity in Leicester right at doorstep.

9.1.4. Diploma in Footwear Designing and Product development by Textile and Fashion Industry Training Centre – The Textile and Fashion Industry Training Centre Pte Ltd (TaF.tc)

Study program *Title*:	Diploma in Footwear Designing and Product development by Textile and Fashion Industry Training Centre
Institution providing the study program:	The Textile and Fashion Industry Training Centre Pte Ltd (TaF.tc)
Website:	https://www.taftc.org/ https://www.taftc.org/courses/taftcs-diploma-in-footwear-design-and-product-development-footwear-design-and-product-development-560
Entry requirements (Qualifications):	Secondary level, undergraduate
Duration:	Full Time: 4-5 months ; Part Time: 11-12 months
Detailed Learning Content (Curriculum):	**Programme** ▪ Footwear Quality and Fit Evaluation ▪ Digital Footwears Design ▪ Athletic Shoes Fundamentals ▪ Footwear Leather and Materials ▪ Footwear Components and Construction ▪ Footwear Branding and Buying Strategy ▪ Footwear Design Sketching ▪ Shoe Making: Athletic Shoes ▪ Footwear Technical Specifications and Costing

	▪ Shoe Making: Ladies' Court Shoes ▪ Intermediate Footwear Pattern making ▪ Shoe Making: Ladies' Sandals ▪ Basic Footwear Pattern Making ▪ Footwear Design Collection ▪ Shoe Making: Men's Shoes
Key Learning Outcomes:	Design, technical development of various shoe models, shoe making of various models, branding
Other information, particularly relevant to the SHOEDES project:	▪ Work closely with companies to provide job placements and internships that serve as a launchpad for participants future. ▪ Practical Industry Knowledge ▪ Everything can be applied to your professional life in fashion and will be taught by industry practitioners through interactive workshops, whether online or in TaF.tc's Sewing Labs. ▪ Global Network of Entrepreneurs and Experts ▪ Post-Graduate Career Support ▪ Career support connects participants to jobs available on the market, opportunities for further studies, and resources to help to start their own brand.

Description

Diploma is Footwear Designing and Product development by Textile and Fashion Industry Training Centre. TaF.tc's Footwear Diploma will teach skills required to launch your footwear industry career, such as entrepreneurship, fit evaluation, shoe-making and design.

Also offered by the textile and fashion industry training center, this is an amazing course with everything students will need to learn. In Singapore, this Footwear Diploma is the first of its kind. This program is ideal for anyone interested **in launching their own shoe business**, owning a shoe store, or working in the fashion industry as a shoe buyer. Its 15 sections cover everything from shoe design to pattern making to construction to sales and marketing insights, costing, and quality control. This program was developed in collaboration with TaF.tc and Arsutoria, a world-renowned Italian footwear institution that has trained Nine West, Aldo, Nike, and LVMH. This curriculum will be delivered by Arsutoria trainers in collaboration. There is an apparent demand in the business for informed and skilled shoe professionals, and this may be one of the best Footwear Diploma Courses in Southeast Asia. Lectures, talks, demonstrations, case studies, practical exercises, role-plays, and hands-on activities will be used to provide TaF.tc's Diploma in Footwear Design and Product Development.

The Global Fashion School Without Boundaries

The Textile and Fashion Industry Training Centre Pte Ltd (TaF.tc) was established in 1983 and has been a long-term partner of SkillsFuture Singapore (SSG) as the appointed Continuous Education Training Centre (CET) of the textile and fashion industry. TaF.tc is also EduTrust certified by the Committee for Private Education (CPE).

To date, TaF.tc has issued more than 32,000 Statement of Attainments under the WSQ Framework and trained over 9,200 individuals. We pride ourselves on the industry-standard knowledge that we can provide to our students, with 48 trainers around the globe who are industry professionals in various specializations in textiles, apparel, footwear, bags and jewellery.

The Textile and Fashion Industry Training Centre Pte Ltd (TaF.tc)

Located right on top of Tiong Bahru MRT station, our Central Plaza Campus is home to one of our Drafting & Sewing Rooms and a Design Studio dedicated to teaching digital fashion.

It's a unique, holistic platform that enables fashion talent in Asia to realise their dreams, and promotes the regional fashion industry as a leading fashion hub.

The Footwear Diploma will be split into 5 main categories which will cover the fundamentals of footwear, design & sketching, business modules, shoemaking, and a final capstone project to wrap up everything you've learnt in the Diploma.

As an Edutrust and Singapore Workforce Skills Qualifications (WSQ) certified training centre, with 11 top fashion schools recognising our Diplomas for accreditation programmes like Paris College Of Art and Atelier Chardon Savard, TaF.tc continues to stay in line with leading national and international fashion industry standards.

Learning by doing

TaF.tc's Diploma in Footwear Design and Product Development will be conducted in the form of lectures, discussions, demonstrations, case studies, practical exercises, role plays and hands-on activities. The courses are conducted in the form of lectures, discussions, demonstrations, case studies, practical exercises, and hands-on activities. Students are then assessed on the work done with a final evaluation at the end of every course.

Facilities and labs

With state-of-the-art sewing machines and a complete industry-standard Footwear & Bags Lab, the two campuses are conducive learning environments located close to the vibrant city centre of Singapore. Both campuses have a combined area of about 500 square metres - enough space for 150 students at a time. The facilities are designed and built to be eco-friendly, utilising energy saving lights, recycled materials, as well as the latest hardware and software.

Career and Network and Opportunities

Work closely with companies to provide job placements and internships that serve as a launchpad for participants future. Whether it's through promoting a brand on alumni portal THE LABEL SG, or providing mentorships and consultations to further studies.

Work closely with renowned experts and practitioners from all over the world to deliver courses that help students and professionals succeed in the fashion, textile and footwear industries. Maintaining such close industry relationships – both locally and globally – identify skills and knowledge gaps, and create training programmes specifically designed to plug them.

Graduating students are able to start their careers with relevant working knowledge and benefit from our close industry connections.

As well as the pursuit of knowledge, they pursuit robust work ethics, a positive attitude and an industrious spirit.

9.1.5.Shoe Design Courses by Academia Riaci – Academia Riaci

Study program *Title*:	Shoe Design Courses by Academia Riaci
Institution providing the study program:	Academia Riaci
Website:	https://www.accademiariaci.info/academics/shoe-design/
Entry requirements (Qualifications):	Students who have already acquired a basic and professional foundation in their field, equivalent to the

	level of graduates of Accademia Riaci's academic programs as well as college graduates. open to professionals with proven experience in a field concerning the subjects of the Master Course, who wish to further their expertise.
Duration:	1 year
Detailed Learning Content (Curriculum):	See below
Key Learning Outcomes:	Advanced techniques of shoe design; various aspects of the shoe industry, including the expression of creativity and techniques in the shoe design process as well as the practical process of sales and business side, with emphasis on the practical application of their study to the shoe industry. Students will have a chance to learn first-hand how shoe design is realized through concept work-production-sales, by visiting shoe factories, shoe companies
Other information, particularly relevant to the SHOEDES project:	Close relationship with the leather industry; students can work on projects together with local companies/designers under the supervision of the professor,

Description

This is another one-year comprehensive shoe-making course in Florence, Italy. Students will master all of the fundamental shoemaking methods, from the beginner level methods to the advanced. Students can study shoes for specific needs, such as shoes pursuing "simplicity and comfort," "durability," "useful shoes for feet with medical problems," "elegance for parties," and so on, and get skills sufficient to begin their career as a shoemaker. Students will also acquire general inter-discipline knowledge on art through basic art lessons (3D Drawing, Color Theory, Art History, Basic Painting) and Art-Visits outside of the classroom.

Specifically designed for international students, the One-Year Course provides students with the opportunity to acquire a solid and professional foundation in any of the offered majors related to arts, crafts, and design. The program also includes Italian Arts & Culture lessons, Weekly Art Visits, and Monthly Cultural Activities.

The course is suitable for beginners or for those who have a basic training in a selected subject.

A Diploma will be awarded to students who have successfully completed the course.

The program also includes basic lessons in Italian Arts, weekly guided art visits, and monthly activities. The course is suitable for beginners or for those who have a basic preparation in a selected area.

A Certificate of Attendance will be awarded to students who have successfully completed the course.

The goal of our master programs is to offer students the opportunity to bring their specialized study to the highest level and apply it in the actual professional environment. Students perform advanced research according to the themes chosen by their own initiative, under the close guidance of the professors. During the second half of the program, students carry out a project research, a joint project in collaboration with Italian companies/studios and/or professionals, to apply their study to practice.

Upon successful completion of the graduation project and final examination, a Diploma certificate is awarded.

The students enrolled in the Master Course will pursue more advanced techniques of shoe design according to their research topic. During the course, students will explore various aspects of the shoe industry, including the expression of creativity and techniques in the shoe design process as well as the practical process of sales and business side, with emphasis on the practical application of their study to the shoe industry.

Accademia Riaci offers unique opportunities for students, thanks to its close relationship with the leather industry. Students will have a chance to learn first-hand how shoe design is realized through concept work-production-sales, by visiting shoe factories, shoe companies, etc. During the second semester of the course, students will work on “Corporate Study”, in which students can work on projects together with local companies/designers under the supervision of the professor, to learn the actual production process in Italy, which is known for designing shoes of the highest quality in the world.

Students will create a collection of shoes with specific themes, such as specific age groups or markets, selecting colours, textiles, or designs to apply. Then, they choose a topic, create shoe design plans, and research various types of shoe designs, modern techniques, and special functions.

The course also teaches the structure of the human foot, draw several types of design, and prepares for more advanced design. Students will perform research on the variation of colours and materials, as well as market trends, and learn to express their free ideas in the actual design.

The ultimate goal of the course is that each student will acquire enough skills to start working as a professional.

Students enrolled in the "One-Year Course" will also acquire general inter-discipline knowledge of "Italian Basic Art" (Art History, Painting, 3D Design, Color Theory) and take part in guided art visits and stages, to cultivate their artistic sensibilities and global perspective as a designer and complete a season’s collection.

Shoe Design and footwear instructors are Italian professional designers, who has been working in the fashion area for generations. They will show students every step of shoe design in easy and comprehensive manner.

Also, students will have a chance to visit, together with the instructor, The Salvatore Ferragamo Museum in Florence, a fashion museum dedicated to the life and work of Italian shoe designer Salvatore Ferragamo.

The heritage of the traditional craftsmanship and the arts that flourished in Tuscany, especially in Florence, celebrated the glory of the Renaissance era as the true gem of arts. Workshops and studios of the craftsmen were the major driving power of the city’s production activities that helped Florence truly flourish as Italy’s artistic capital of the era, and they together with the merchants achieved glory and great fortune.

Numerous magnificent artistic objects were created for baptisteries in the craftsmen’s studios, often those of goldsmiths. A good example is Maestro Benvenuto Cellini, who taught his superior sculpting techniques for making a nude statue out of marble to his apprentices in a studio somewhere. Today, these commissioned crafts executed by the beloved Maestro have been preserved for centuries as a true work of art. This legacy of the wholesome and special traditions of craftsmanship, such as gold and jewellery production, sculpture and painting, was, fortunately, lively inherited over many centuries in Florence and in the entire Tuscany region.

Teaching methods and philosophy

- Mission – “Live the past, create the future” - The ultimate goal of Accademia Riaci’s education is not focused only on teaching traditional techniques and styles but aims to guide students to develop their own artistic sensitivity, creativity and realize their full potential.
- From the Traditional to the Ultra-modern Techniques

- Tailored Instruction

9.1.5.Intensive Course in Footwear & Accessories Design by Accademia del Lusso - Accademia del Lusso

Study program *Title*:	Intensive Course in Footwear & Accessories Design by Accademia del Lusso
Institution providing the study program:	Accademia del Lusso
Website:	https://www.accademiadellusso.com/en/courses/intensive-courses/shoes-accessories-design/
Entry requirements (Qualifications):	Upper secondary school qualification Suitable knowledge of English: demonstrated by a formal certificate or Skype language interview Applicants with non-standard qualifications or who possess relevant work experience will be considered on an individual basis
Duration:	1 year
Detailed Learning Content (Curriculum):	The curriculum covers all the key subject areas for designing, developing, and creating fashion accessories collections (shoes, bags, belts, and other small accessories), including prototypes and samples, and also explores important aspects such as branding and merchandising. Modules include: ▪ History of Fashion and Accessories ▪ Colour ▪ Trends and Research ▪ Computer Graphics for Fashion ▪ Design Process ▪ Planning and Development of Footwear and Accessories Collections ▪ Accessories Materials and Technical Specs ▪ Drawing and Rendering ▪ Rendering for Luxury Accessories ▪ Merchandising and Production ▪ Patternmaking for Shoes and Accessories ▪ Personal Branding ▪ Fashion Jewellery The course curriculum combines theory with a large quantity of authentic practical classes and workshops, including meeting industry experts and participating in guided field trips to key locations in Milan. The course is taught by expert professionals from the industry who provide their experience and knowledge and who

	constantly update course content to ensure students are learning the latest skills and techniques.
Key Learning Outcomes:	Creating, planning, designing, developing, and producing footwear and accessories collections in line with market demands; Manage the whole production chain and design innovative and fashionable items that are both commercially and creatively viable Covering a wide range of skills and spheres of knowledge, from trend research to graphics, colour theory to collection planning, branding to patternmaking, students will gain a comprehensive training aimed at preparing them for a variety of roles across the fashion accessories sector.
Other information, particularly relevant to the SHOEDES project:	Combination with technological innovation in goods, materials, and manufacturing processes specially in leather The course is in English Focus on luxury fashion businesses The course offers internships

Description

This 1-Year Intensive Course in Footwear & Accessories Design at Accademia del Lusso Milan cultivates students' working skills and strategic ability to shape them into professionals capable of creating, planning, designing, developing, and producing footwear and accessories collections in line with market demands. The course's goal is to equip students with the knowledge and skills they'll need to manage the whole production chain and design innovative and fashionable items that are both commercially and creatively viable.

This course is available in English, located in Milan

Envisages a wide range of careers in Fashion, such as: Shoes & Accessories Designer, Head Designer, Fashion Designer, Fashion Graphic Designer, Fashion Coordinator, Accessories and Materials Buyer, Processing Technician, Product Manager.

Accademia del Lusso is an Italian school with a global outlook. All of our courses aim to convey the same qualities that make the Made in Italy brand such a worldwide benchmark for quality and innovation.

Key features that differentiate the course from others:

- Unrivalled Milan location
- Pick up the latest insider tips: teacher are from the industry who all currently work within the sector for important brands or their own businesses.
- Gain experience: Workshops form a key part of our Intensive Courses and provide the opportunity to gain valuable experience to consolidate classroom learning.
- Internships: wide range of internship opportunities for our best students at high-profile brands and businesses in the fashion and luxury sector.
- Small class sizes

9.1.6.SHOE ONE-YEAR DIPLOMA - ARSUTORIA SCHOOL

Study program *Title*:	SHOE ONE-YEAR DIPLOMA
Institution providing the study program:	ARSUTORIA SCHOOL
Website:	https://www.arsutoriaschool.com/shoe-one-year-diploma/
Entry requirements (Qualifications):	No requirements
Duration:	1 year
Detailed Learning Content (Curriculum):	See below
Key Learning Outcomes:	Technical tools needed for the pattern making and prototyping of men's shoes, women's shoes, and sneakers. Includes practical skills like the stitching of the first upper prototype of the shoe. Hand drawing and illustration of shoes and their components, with a focus on the design of the soles Adobe Photoshop and Illustrator graphic software, iCAD3D+ software for 3D modelling of the shoe, and Rhinoceros for 3D design of soles
Other information, particularly relevant to the SHOEDES project:	Tradition and innovation. Combination with technology and manuality. ARS fab lab

Description

Created to offer an in-depth, complete and integrated educational program for every aspect of shoemaking, the one-year diploma offers a unique and prestigious career path in the footwear industry. Tradition and innovation, rules of know-how and design methodology: classic artisanal techniques, advanced digital tools, and design culture that opens the mind to the future. A path that ends with the development of a small shoe collection that sums up each student's individual ability to blend creativity with technical expertise. A unique experience on the panorama of Italian and international fashion schools made possible by the technical skills and laboratorial structures at the leading school for shoemaking in the footwear industry.

Programme:

The 15-week technical training course has the aim of providing you with the technical tools needed for the pattern making and prototyping of men's shoes, women's shoes, and sneakers. It begins with an introduction to shoe lasts and then continues with the rules of pattern making, the undisputed legacy of the Arsutoria school, but also includes practical skills like the stitching of the first upper prototype of the shoe.

The 15-week shoe design course begins by acquiring the tools needed for hand drawing and illustration of shoes and their components, with a focus on the design of the soles.

The course continues with training in the use of Adobe Photoshop and Illustrator graphic software, iCAD3D+ software for 3D modelling of the shoe, and Rhinoceros for 3D design of soles.

The last part of the course focuses on the acquisition of the tools needed to create and develop a shoe collection including how to find inspiration in trends, how to depict your ideas, and how to find materials and lasts for expressing your creativity, transforming it into a coherent and innovative project, which will serve as the basis of your portfolio in future projects.

The final 8-week project represents a blending of the previous two paths of technical training and design: a capsule collection of shoes that will be conceived, designed, and prototyped with the support of Arsutoria school's technicians.

ARSUTORIA SCHOOL

Arsutoria School is the Italian excellence in design, pattern making and prototyping of footwear and leather goods. Since 1947, Arsutoria has been offering its students highly specialized diplomas and training paths, providing them with the skills to express their talent in making and designing shoes and bags all over the world. Their students work for the best international fashion brands.

It's also possible to attend the classes remotely, following the in-class schedule with a blended approach: pre-recorded video lessons and live reviews with our teachers.

A complete path, with an emphasis on laboratory work, enriched by the Shoemaster CAD software, which is one of the leading software programs for technical pattern making in the sector.

Key features that differentiate the course:

- 75 years of experience
- Uniqueness
- Industry relations
- Highly focused
- Diversity - Over 50 nationalities for a students' population that comes from any part of the world as our programs are held in English and Italian.
- Accommodation. In the heart of Milan
- Hybrid programs

Ars-Lab

A shoe design or a shoe engineering course should include a number of hours dedicated to making shoes with the support of expert technicians in a shoe factory or in a sample room.

ARS was the first design school in Italy with our own sample room equipped with all the machines commonly used to make shoes and bags in a factory.

Giving a student the opportunity to experiment, even make mistakes, realize which choices have to be made and which compromises have to be faced in production it's the only way to teach the art of shoe and bag making. That is the reason why we have decided to set up a complete and running footwear and leathergoods sample room in Arsutoria School.

A team of expert workers guide our students through the unique experience of making their shoes

9.1.7.Postgraduate in Footwear Design – Instituto Europeo di Design (IED)

Study program *Title*:	Postgraduate in Footwear Design
Institution providing the study program:	Instituto Europeo di Design (IED)
Website:	https://www.ied.edu/courses/barcelona/other-postgraduate-courses/footwear-design
Entry requirements (Qualifications):	Students must have a basic command of the ADOBE package.

	Applicants are required to submit a CV and a covering letter in order to register. Should any of the prerequisites for admission not be met, the school will evaluate each case individually, and reserves the right to call in the applicant for a personal interview.
Duration:	6 months
Detailed Learning Content (Curriculum):	The course is divided into four theory modules: ▪ Trends and Design ▪ Patterns and Technical Drawing ▪ Marketing and Brand ▪ Go To Market
Key Learning Outcomes:	Develop footwear collections with all of the technical work, industrial requirements and patterning involved, both for medium-to-high-range distribution companies and for small brands. All-round vision of the sector and its aim is for students to reach the end of the course armed with the tools and know-how they need to develop their own brand project or a collection for a client or company.
Other information, particularly relevant to the SHOEDES project:	It provides an all-round vision of the sector. It includes visits to companies. It has a go to market perspective and prepare the students for it at the end.

Description

Develop footwear collections with all of the technical work, industrial requirements and patterning involved, both for medium-to-high-range distribution companies and for small brands.

After the Postgraduate in Footwear Design, students will be qualified to plan and develop products in both conceptual and strategic terms, as well as taking care of execution, controlling production and finishes. To round off the program, students are taken to a tanning factory and to a customised footwear workshop to experience the various options the sector offers, both industrial and hand-crafted.

The aim of the Postgraduate in Footwear Design is to break down and fully understand the process of creating a footwear collection, from the most creative part (trends, design and volumes) to the administrative side (cost analysis, collection standardisation, market survey, etc.), including technical aspects (volume creation, fit validation, pattern development and method sheets).

The course provides an all-round vision of the sector and its aim is for students to reach the end of the course armed with the tools and know-how they need to develop their own brand project or a collection for a client or company.

At the end of the course students can perform their jobs in footwear companies, design studios, national and international brands, shoe manufacturers, consultants.

IED

international Group with a proudly local outlook and 12 campuses in 3 countries, Italy, Spain and Brazil. The largest Higher Education Network in the creative field to have maintained a global outlook and a deeply Italian cultural matrix, since 1966. Our educational experience has changed over time

but continues to be based on a simple and effective model: we combine theory with practice and knowledge brought into the classroom by professionals from the world of work. We teach our students to be one step ahead, in the present. An inclusive, transdisciplinary school that uses design as a universal language for change. Partner with universities and academies and are members of major international academic networks such as, for example, Cumulus, Elia and WDO.

Programme:

Throughout the training programme, in order to apply the tools acquired, a collection plan will be developed according to a brief given by a partner company or professional. The course will be enhanced with case studies, workshops and trips.

The course is geared towards fashion designers, product designers and professionals from related fields with some knowledge of design and projects.

9.1.8.Footwear Design — Lisbon School of Design (LDS)

Study program *Title*:	Footwear Design
Institution providing the study program:	Lisbon School of Design (LDS)
Website:	https://www.lsd.pt/cursos/design-de-calcado
Entry requirements (Qualifications):	No prerequisits
Duration:	9 months / 280 hours
Detailed Learning Content (Curriculum):	▪ Creative processes ▪ Footwear design history ▪ Lower limbs anatomy / Footwear anatomy ▪ Manual and digital representation tools ▪ Project management ▪ Product management ▪ Final project ▪ Portfolio
Key Learning Outcomes:	▪ Footwear collection ▪ Selection of materials, colours and footwear components ▪ Production processes ▪ 2D and 3D technical representation ▪ Technical dossier ▪ Footwear prototype ▪ Product management and cost calculation
Other information, particularly relevant to the SHOEDES project:	Proximity between students and teachers; Theoretical-practical approach, balanced and aligned with the real job market; Differentiating teaching methodology; theoretical-practical approach aligned with the job market. State-of-the-art equipment, motivated teachers and experts in the job market

Description

The Footwear Design course was created to encourage personal experiences, stimulate individuality and independent thinking with the aim of awakening new approaches and creativity in the footwear world. We offer encouraging teaching and a real opportunity for all those wanting to invest in their talents, dreams, learning, and ongoing development.

Lisbon School of Design - LSD

The school teaches different aspects of Design using an approach that sets us apart and rests on three foundations:

Facilities

- Rooms and tailoring workshops with state-of-the-art equipment;
- Exhibition of student projects;
- Placed in Lisbon and Porto

Features that differentiate the course:

- Participants will master the creative and design processes in the development of footwear collections, gaining an increasingly qualified proximity to the production line.
- Participants will have access to its own methodology with a theoretical-practical approach aligned with the job market.
- State-of-the-art equipment, motivated teachers and experts in the job market.

9.1.9. Shoes Design - Istituto di Moda Burgo Istanbul - International Italian fashion school based in Istanbul

Study program *Title*:	Shoes Design
Institution providing the study program:	Istituto di Moda Burgo Istanbul
Website:	https://burgoistanbul.com/courses/special-diploma-courses/shoes-design/
Entry requirements (Qualifications):	Secondary level
Duration:	1 year
Detailed Learning Content (Curriculum):	▪ Fashion Design ▪ Anatomical Basis ▪ Foot Morphology ▪ Colour Theory ▪ Rendering Techniques ▪ Technical Drawing ▪ Graphical Drawing ▪ Quick Sketching ▪ Collection – Portfolio ▪ Styles and Trends ▪ Illustration ▪ Style and Couplings ▪ Shoes' planning ▪ Line, Shape & Colours ▪ Skins and fabrics ▪ Alternative materials

	▪ Sociology & Marketing ▪ Product's placement
Key Learning Outcomes:	Anatomy and with the knowledge of the different kinds of materials. Fundamental themes such as: classical, sportive, elegant and vanguard styles and later on they will be focused on Shoe Fashion new trends (high-heel footwear, short-heel shoes, stiletto shoes etc), on the materials used (leather, chamois-leather, crocodile leather, etc), on the patterns of footwear (boot, décolleté, sabot, sandal, big nailed boot).
Other information, particularly relevant to the SHOEDES project:	The individual teaching method and the limited number of students for each teacher

Description

The course is aimed to prepare Shoes Designers, providing them with rudimental notions of anatomy and with the knowledge of the different kinds of materials, allowing our students to have their own footwear design Portfolio, fundamental for a competitive presentation to the Fashion working reality . To gain a deep knowledge in the field of the planning of Lines and Shape, the students will receive a starting background above fundamental themes such as: classical, sportive, elegant and vanguard styles and later on they will be focused on Shoe Fashion new trends (high-heel footwear, short-heel shoes, stiletto shoes etc), on the materials used (leather, chamois-leather, crocodile leather, etc), on the patterns of footwear (boot, décolleté, sabot, sandal, big nailed boot).

Istituto di Moda Burgo Istanbul

The Institute was founded by the publisher Fernando Burgo in 1961. His long and thriving experience in the area of fashion has proven to be successfully. His commitment to share in his knowledge with each and every student interested in fashion is the result of 50 years of experience in the fashion industry. His direction enables the students to be in touch with the fashion world and all opportunities of training and work the fashion industry has to offer.

Internationalization approach: participation of over 500,000 Students from around the world

Learning methods:

The collaboration between a dynamic and constantly updated institute and the most prestigious fashion houses allows a better communication with the younger generation eager to share technical knowledge and the direct experience of their professors. The individual teaching method and the limited number of students for each teacher provide a personalized training course. The teachers from the several international Istituto di Moda Burgo branches regularly go to Milan, to the head office, to follow updating educational courses about the latest fashion trends to ensure an excellent training offer. The quality and speed of learning are guaranteed by the following factors:

- Individual classes
- Exclusive educational system
- Monthly Tests
- Limited number of students

9.1.10. Master of Arts in Fashion Design - Pathways in Accessory Design, Fashion Design, Knitwear Design, Fashion Image - Institut Français de la Mode

Study program *Title*:	Master of Arts in Fashion Design - Pathways in Accessory Design, Fashion Design, Knitwear Design, Fashion Image
Institution providing the study program:	Institut Français de la Mode
Website:	https://www.ifmparis.fr/en/programs/degree-certificate/master-of-arts-in-fashion-design
Entry requirements (Qualifications):	Secondary level
Duration:	2 years
Detailed Learning Content (Curriculum):	▪ Design Pathways: Accessory Design ; Fashion Design ; Knitwear Design: in the Design area, the program leading to the Master of Arts is an accredited professional degree intended for designers who have completed a Bachelor of Arts' degree with a major in fashion design, accessory design, knitwear design, textile design, product design, jewellery design, architecture or fine arts. ▪ Image Pathway: Fashion Art Direction: in the Image area, the program is intended for creatives who have completed a Bachelor degree with a major in any field related to photography, cinema, visual arts, design, writing, marketing or management.
Key Learning Outcomes:	Design and Image
Other information, particularly relevant to the SHOEDES project:	Internationalization approach

Description

The Master of Arts is a graduate program with three pathways in Design and one in Image.

Master of Arts program aims at transmitting and reinventing the knowledge of excellence that led Paris to become the center of avant-garde and high-end fashion. It embodies the identity and values of Paris as an inclusive artistic platform, home to the greatest international fashion designers and couturiers, at the crossroads of cutting-edge design, exceptional craft know-how and sustainable innovation.

Institut Français de la Mode

Institut Français de la Mode is a higher education institution, a training center for apprentices, a provider of executive education, as well as a center of expertise for the textiles, fashion and luxury industries. Located in Paris, it provides educational programs from vocational training to doctoral level, by cross-fertilizing design, management and know-how. It trains the world's talents in the fields of design, management and craftsmanship in the heart of Paris.

Institut Français de la Mode brings together Ecole de la Chambre Syndicale de la Couture Parisienne and IFM. Both schools have made their mark on the world of fashion. ECSCP has embodied excellence "à la française" since 1927 and IFM was a pioneer in fashion management education from 1986 onward. Today their union offers Paris a new, open-minded and visionary fashion school which nurtures tomorrow's creative talents.

As of 2019, Institut Français de la Mode brings together Ecole de la Chambre Syndicale de la Couture Parisienne, founded in 1927 and recognized for the excellence of its training in couture savoir-faire, and IFM, founded in 1986 and a pioneer in fashion management education.

Institut Français de la Mode is a member of HESAM Université, of the Conférence des grandes écoles and of the International Foundation of Fashion Technology Institutes (IFFTI). It is supported by the French Ministry of Economy. It is recognized by the French Ministry of Higher Education.

Facilities

9 000 m² campus is located at the Cité de la Mode et du Design on the banks of the river Seine with state-of-the-art equipment: studios, workshops, fablab, DIY workshop, knit workshop, leather workshop, photo studio, CAD workshop.

Institut Français de la Mode's alumni network is a passionate, active and supportive community which counts 4,000 active members in France and abroad. The Alumni Association represents graduates from Ecole de la Chambre Syndicale de la Couture Parisienne and from IFM, united by the same dedication to fashion and creation. It supports its members and coordinates the network by organizing regular professional and social events. Alumni network counts heads of ateliers, designers, directors, craftsmen, entrepreneurs…. Pictured in the slideshow are but a few examples.

Internationalisation approach:

Institut Français de la Mode is at the heart of an international network which enables it to develop new educational offers and to encourage exchanges between faculty from different disciplines. Besides its Paris-based activities, IFM Alumni has chapters in the USA, UK, China and Belgium.

9.1.11.Master of Arts in Fashion Design - Pathways in Accessory Design, Fashion Design, Knitwear Design, Fashion Image - Institut Français de la Mode

Study program *Title*:	Footwear Design and Technology (Tehnologia și Designul Confecțiilor din Piele și Înlocuitori - TDCPI)
Institution providing the study program:	"Gheorghe Asachi" Technical University of Iasi, Faculty of Industrial Design and Business Management
Website:	https://www.tuiasi.ro/ https://dima.tuiasi.ro/ https://dima-incaltaminte.ro/
Entry requirements (Qualifications):	Footwear Design and Technology, Engineer Bachelor studies, level 6 CNC and level 6 EQF
Duration:	4 years
Detailed Learning Content (Curriculum):	**1st Year** Compulsory subjects • Linear Algebra, Analytic Geometry, Differential Equation • Probability Theory and Mathematical Statistics • Computer-Aided Graphics

	• Applied Informatics • Chemistry • Raw Materials for Textile and Leather • Physics • General Engineering in Textile and Leather Optional subjects • Textile Design Elements • Fundamentals of Industrial Design • Project Management • Mechanical Engineering • Foreign Languages Facultative subjects • The Second Foreign Language • Free Drawing • The Psychology of Education • Pedagogy **2nd Year** Compulsory subjects • Mathematical Analysis • Computer Aided Graphics • Fundamentals of Computer-Assisted Technology and Design • Metrology in Textile and Leather • Textile Structures • Structure and Design of Textile Garments • Structure and Design of Footwear and Leather Goods • Function and Comfort of Garments and Leather Goods • Business Communication and Negotiation • Physical Training • Practical Training Optional subjects • Textile Fibers • Raw Materials for Textile and Leather 2 • Marketing • Electrotechnics, Electronics and Automation • Foreign Language Facultative subjects • The Second Foreign Language • Ethics and Integrity • Practical Training in the Simulated Company • Pedagogy • Didactics of the Specialization **3rd Year** Compulsory subjects • Shoemaking Machinery

	• Fundamentals of Footwear Pattern Making • Fundamentals of Footwear Technology • Leather Processing Technology • Raw Materials for Footwear • Moulds for Footwear • Practical Training Optional subjects • Auxiliary Materials for Footwear • Fundamentals of Footwear Technology • Footwear Computer-Aided Design • Computer-Aided Manufacturing Technologies Facultative subjects • Artistic Drawing • International Marketing • Accounting Elements • Timeline Analysis and Labour Regulation • Fashion Drawing • Business Education • Computer-Assisted Training • Pedagogical Training in Compulsory Secondary Education • Student Management **4th Year** Compulsory subjects • Management • Footwear Quality Control and Quality Assurance • Fundamentals of Footwear Processes • Fundamentals of Footwear Technology • Footwear Product Design • Leather Goods Pattern Making and Manufacturing • Shoemaking Machinery • Undergraduate Thesis Development • Practical Training for Undergraduate Thesis Optional subjects • Advanced Footwear Pattern Making • Special Footwear Pattern Making and Technology • Footwear Computer-Aided Design • Computer-Aided Manufacturing Technologies Facultative subjects • Legislation of Economic Agents • Manufacturing Technological Lines • Analysis and Control of Systems through Costs • Entrepreneurial Education - Creative Entrepreneurship
Key Learning Outcomes:	**Professional outcomes**

	• Make calculations, demonstrations and application for solving specific task in industrial engineering, based on knowledge of the fundamental sciences. • The combination of knowledge, principles and methods in the field of technical sciences for textile and leather to identify and analyse the functional characteristics of specific products. • The use of digital technologies and software applications for solving specific tasks for designing and manufacturing footwear and leather goods. • Design footwear and leather goods, as well the related processes and manufacturing technologies. • Planning, coordinating and monitoring the manufacturing systems for footwear and leather goods. • Evaluation and quality assurance of leather products in relation to associated technological processes. **Transversal outcomes** • The application of the values an ethics of the profession of engineering and execution of professional duties under conditions of restricted autonomy and qualified assistance. Promoting logical reasoning, convergent and divergent, the practical applicability of evaluation and self-evaluation in decision-making. • Activities and roles specific to exercise teamwork on different hierarchical levels. To promote the spirit of dialog, cooperation, initiative, positive attitude and respect towards others, diversity and multiculturalism, and the continuous improvement of its own activities. • Self-assessment of the ned for continuing vocational training with the aim of insertion on the labour market and adaptation to the dynamics of its requirements and for personal an professional development, Effective use of language skills and knowledge of information technology and communication.
Other information, particularly relevant to the SHOEDES project:	Comprehensive education; Internationalization approach

Description

The Footwear Design and Technology of the “Gheorghe Asachi” Technical University of Iasi, Faculty of Industrial Design and Business Management is one of the very few EQF level diplomas in Europe dedicated to Footwear

“Gheorghe Asachi” Technical University of Iasi, Faculty of Industrial Design and Business Management
It is a prestigious Romanian university, classified as a university for advanced research and education, according to the Ministry of Education& Research Order and being also a relevant component of the research and development system of national interest. TUIASI develops programs for undergraduate, master, doctoral, postdoctoral studies and scientific research in 14 research areas.

Internationalisation approach:

The “Gheorghe Asachi” Technical University of Iasi, Faculty of Industrial Design and Business Management offers a wide set of internships abroad.