

19th

International Technical Footwear Congress

February 03-05, 2016, Chennai, INDIA

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STEP TO SUSTAINABILITY

How to Implement Sustainable Manufacturing in Footwear
new occupational profile and training opportunities

Matteo Pasca
CEO of ARSUTORIA school



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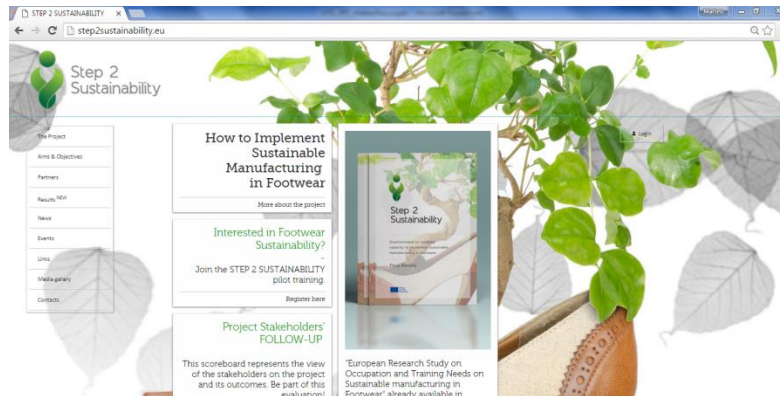


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The project “Step to Sustainability”, co-financed by the European Commission, aims at creating, designing, developing and piloting a new occupation and qualification profile and the corresponding training course in order to cope with the shortage of VET skills in the field of sustainable manufacturing



Ref. 2013-3213/001-001

Start: October 2013

End: September 2016

more info >> www.step2sustainability.eu



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COORDINATOR OF THE PROJECT

CTCP Portugal

OTHER PARTNERS OF THE PROJECT

CEC European Confederation Footwear Industry

TUlasi University Romania

ISC Germany

ARSUTORIA Italy

INESCOP Spain

IRCUO Slovenia

KLAVENESS Portugal

COKA Czech Footwear and Leather Association



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- Sustainability applied to the industry affects all the company working levels: not only design and production departments, but also the managerial level
- A multidisciplinary knowledge is needed in the company to develop a sustainable strategy. However, this knowledge does not currently exist, particularly at technical level
- The footwear sector in Europe is constituted mainly by SMEs, which generally lack of qualified resources in this field, and do either not have the necessary resources for investing in training



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PROJECT STEPS

- **Research on training needs** – regarding the implementation of sustainable manufacturing strategy in SMEs (100 EU companies)
- Development of a **new qualification profile**
“Expert on Sustainable Manufacturing in Footwear”
- Design of **training programme** and correspondent **learning units**, according to ECVET assessment procedures, transferability, validation and accumulation of learning outcomes
- Piloting of **E-learning units** and **work-based workshops**
- **Dissemination** of results of the piloting and exploitation of the project results



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STEP 1: RESEARCH ON TRAINING NEEDS

- An ad-hoc survey (paper and web based) for collecting reliable data was elaborated and distributed among companies of the seven countries of the project's partners
- In total 82 companies participated in the survey, mainly small and medium size enterprises
- As major threats for the industry, companies recognized the shortage of skilled workers, particularly in the production related areas, as well as the scarcity of raw materials [...]

more >> <http://step2sustainability.eu/docs/S2SCECreport.pdf>



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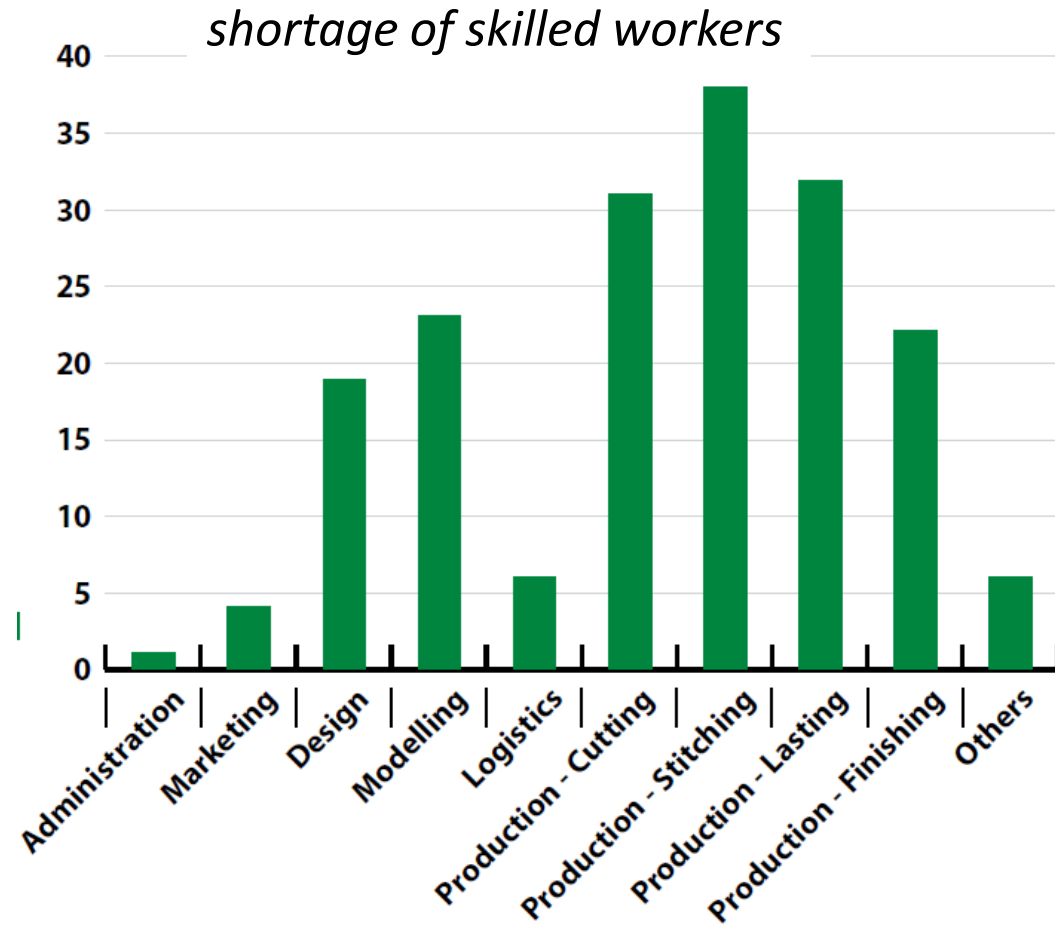
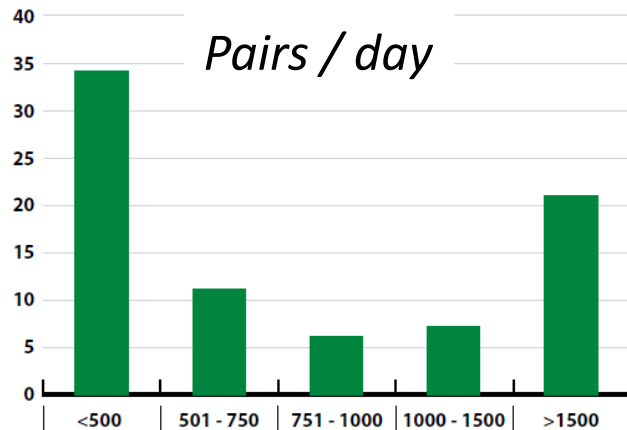
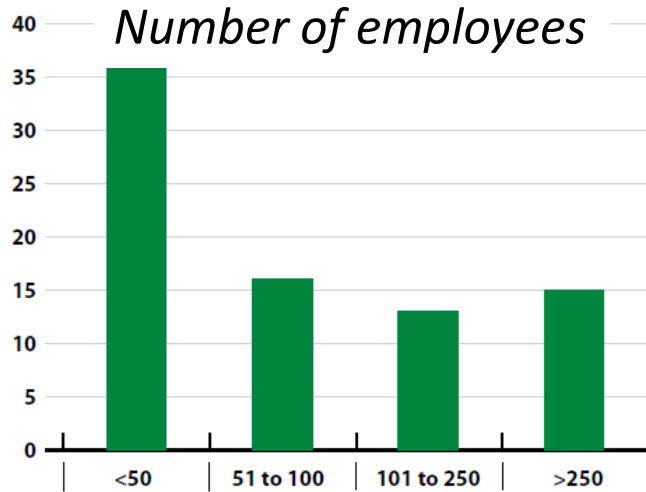


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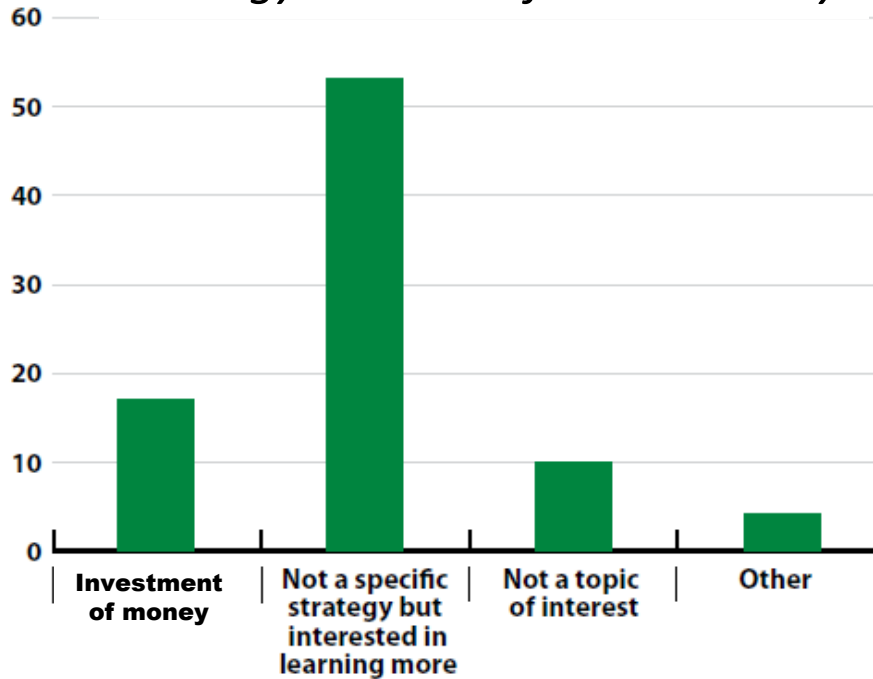
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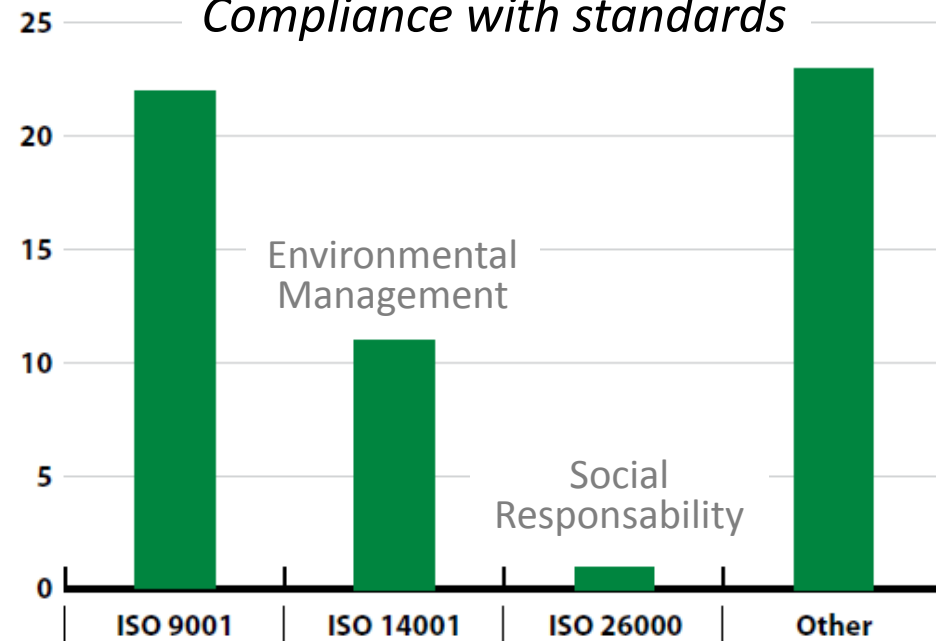


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Strategy in terms of sustainability



Compliance with standards



45% of the companies have declared to have a nominee with specific responsibilities for sustainability topics



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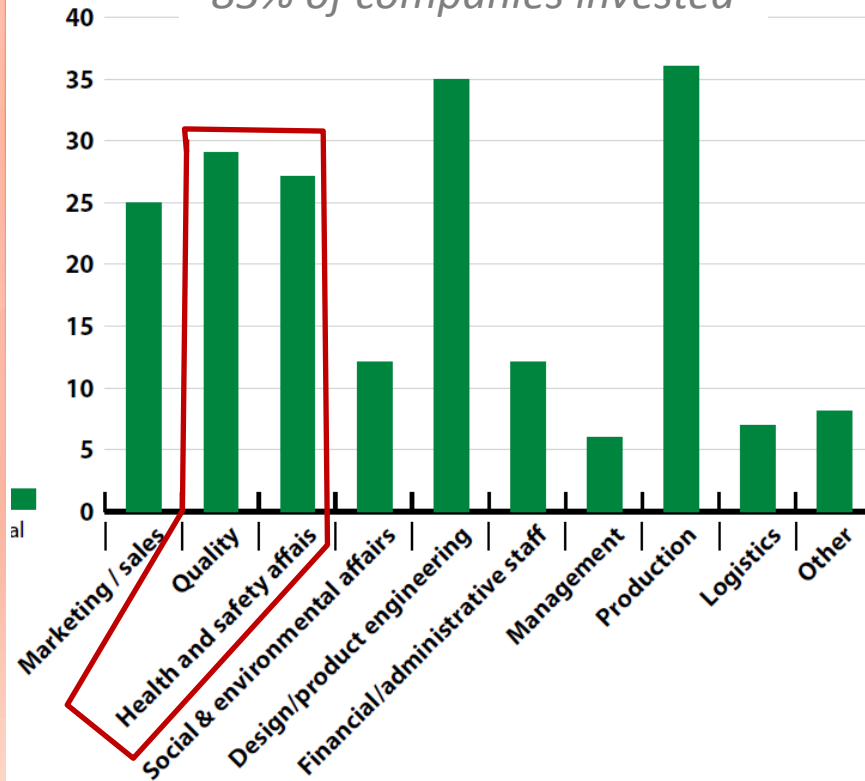
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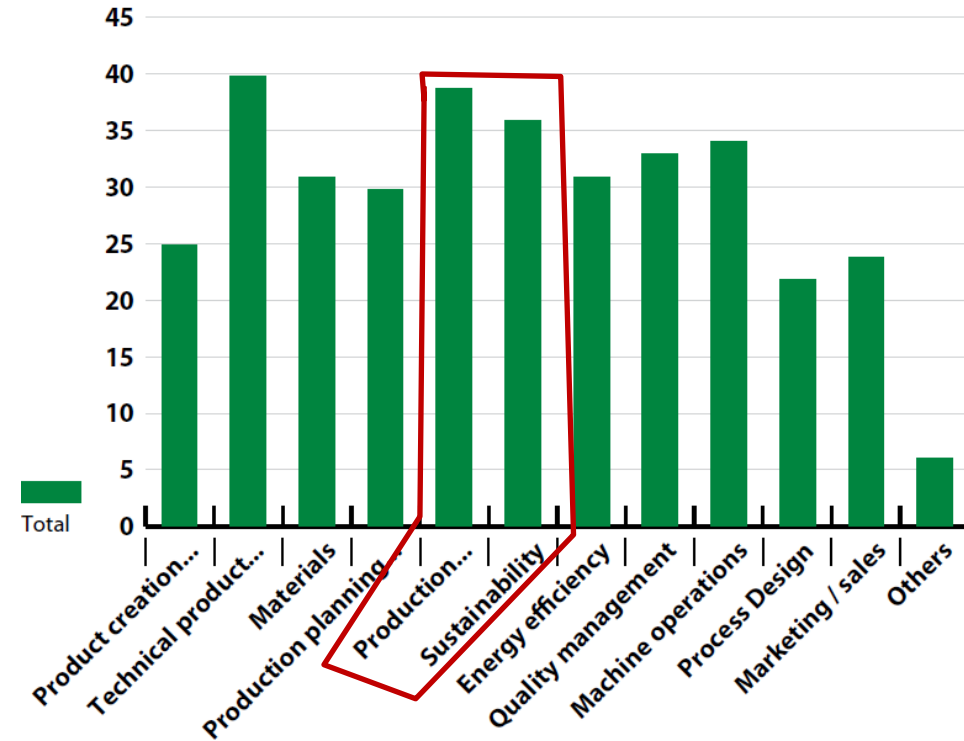
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Investment in training (*)

83% of companies invested



Areas that could benefit from training



(*) in the past five years



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STEP 2: DEVELOPMENT OF A NEW QUALIFICATION PROFILE

For the definition of the occupational profile “Technician in sustainable manufacture of footwear”, the methodology described in the European Qualifications Framework for lifelong learning (EQF) has been followed. The European Qualifications Framework (EQF) is a common European reference framework. It acts as a translation grid which links countries' qualifications systems/framework. It covers qualifications at all levels and in all sub-systems of education and training (general and adult education, vocational education and training as well as higher education). Its main role is to make qualifications more readable and understandable across different countries and systems.

more >> <https://ec.europa.eu/ploteus/en> <http://www.ecvet-toolkit.eu/>



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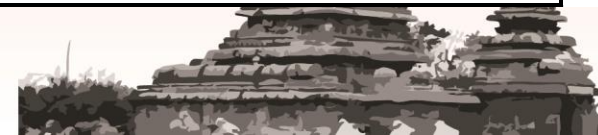
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STEP 2: DEVELOPMENT OF A NEW QUALIFICATION PROFILE

Level 4 - Technician on Footwear Sustainable Manufacturing.

Level 5 - Specialist Technician on Sustainability for Footwear Industry

	KNOWLEDGE	SKILLS	COMPETENCE
	<i>In the context of EQF, knowledge is described as theoretical and/or factual.</i>	<i>Skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).</i>	<i>In the context of EQF, competence is described in terms of responsibility and autonomy.</i>
LEVEL 4	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.	Exercises self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change. Supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities.
LEVEL 5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge.	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.	Exercise management and supervision in contexts of work or study activities where there is unpredictable change. Review and develop performance of self and others.



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STEP 3: DESIGN OF TRAINING PROGRAM – TRAINING UNITS

- Standardization and Certification Systems
- Sustainable Materials and Components for Footwear
- Eco Design and Product Engineering
- Sustainable Manufacturing Technologies and Processes
- Environment and Footwear Sustainability
- Health and Safety at Work (HSW) in Footwear Industry
- REACH and consumer safety-Product legislation for footwear industry
- Contractual, Social and Trade Legislation
- Sustainable Packaging for Footwear
- Supply Chain and Logistics Management in Footwear Companies
- Green Marketing
- Social Corporate Responsibility Practices

Number of hours: each module = 5 ECVET credits

1 ECVET credit = 25 hours (contact hours, self-study, hands-on, assessment)

<http://eupa.org.mt/wp-content/uploads/2015/07/ECVET-Conversion-Manual.pdf>



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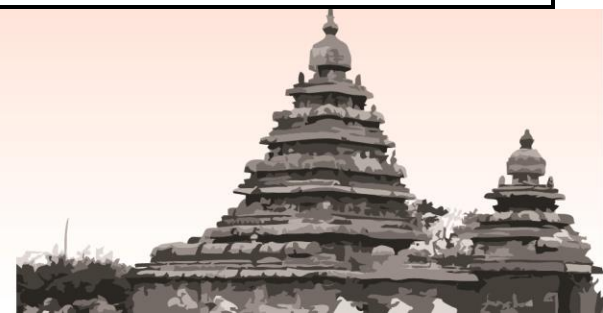
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STEP 2/3: KNOWLEDGE - SKILLS - COMPETENCES

ACTIVITY 3	IDENTIFICATION AND CONTROL OF NON LEGISLATED ENVIRONMENTAL IMPACTS PRODUCED BY FOOTWEAR COMPANIES
Task 2 (A3-T2)	ECO-DESIGN
Knowledge	Computer-aided design tools (3D CAD design) to make fewer prototypes and reduce material consumption and time;
	Concepts about how to design reducing waste generation, material consumption and time;
	Eco-certification; eco-label.
Specific skills / Competences	To manage environmental information relating to the footwear sector, including raw materials;
	To know how to use raw materials with eco-friendly characteristics;
	To be able to optimise consumptions and production time – suggest changes to the models in order to achieve a better material and production time optimisation;
	To minimise the variety of materials in one single product;
	To be able to use computer design tools (PhotoShop, 3D CAD design, etc.), as a way to reduce the quantity of prototypes.
	To make decisions at the design stage in order to define the eco-efficient production characteristics.



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STEP 3: DESIGN OF TRAINING PROGRAM – ECO-DESIGN MODULE

1. Introduction

2. Sustainable Materials

- 2.1 Characteristics of eco-materials for shoes
- 2.2 Materials of interest to shoe designers
- 2.3 Leather and tanning process
- 2.4 Case histories
- 2.5 Sustainable packaging

3. Design for manufacturing

- 3.1 Design optimization in the collection structure
- 3.2 Use of CAD (integration design-engineering-costing) to reduce consumption and waste in the design stage

4. Sources of inspiration for ecodesign



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STEP4: PILOTING E-LEARNING

The screenshot shows a web browser window with the URL step2sustainability.eu. The page features a navigation menu on the left with the following items: The Project, Aims & Objectives, Partners, Results ^{NEW}, News, Events, Links, Media gallery, and Contacts. The main content area displays the title "How to Implement Sustainable Manufacturing in Footwear" with a sub-link "More about the project". A prominent orange-bordered box contains the text: "Interested in Footwear Sustainability? - Join the STEP 2 SUSTAINABILITY pilot training. Register here".

7. Modules which you intend to accede:

- Standardization and Certification Systems +
- Sustainable Materials and Components for Footwear +

This training unit provides knowledge, skills and competences in order to identify, to characterize, to control and to use various materials and components that have ecological/sustainable impact on footwear manufacturing.

After completing this training unit, you'll be provided with:

Knowledge:

- To know various types, structures and characteristics of materials and components used in footwear industry, with a view to their ecological /sustainable impact
- To know the hazardous substances in footwear materials and final product.

Skills:

- To be able to identify and to environment friendly materials and components
- To be able to decide on the substitution of certain materials by the one that are environment friendly, maintaining the same level of functionality and other characteristics of the model
- To be able to evaluate/control the hazardous substances in footwear materials and final product.

Competences:

- To take decisions on the applicability of certain materials based on their ecological impact
- To suppliers of materials and components with ecological characteristics
- To promote an "environment friendly" view toward the entire lifecycle of the footwear product

This training unit contains 125 hours of learning, which includes lectures, suggestions for practical sessions, self-study and assessment and corresponds to 6 ECET points.



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STEP4: PILOTING E-LEARNING

Training course on Sustainable Manufacturing in Footwear

General structure

- EU legislation development
- Horizontal legislation
- EU environmental policy
- Concepts
- Action Programmes
- European Environment Agency (EEA)
- Main EU Directives
- EU Legislative databases and search engines
- How to find documents in database Eur_LEX - Practical cases
- Portuguese Legislative databases and search engines
- How to find documents in Portuguese database - Practical cases



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INESCOP ISC IRCUO MASOTONIA KLAVENESS

S2S Lessons CHAPTER 2 Legislation reviewed final2



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NEXT STEPS

- Finalize the e-learning platform (video lectures, assessments)
- Run the pilot with the selected European companies
- Create a case history of a sustainable footwear collection
- Final Conference and launch of the online training courses
- Follow up of the project
 - keep the contents updated
 - disseminate the culture of sustainability



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