

New skills for the design of drastically improved, comfortable, sustainable, fashion-oriented and scientifically-led footwear products



AN EVOLVING MARKET

It is no secret that business is influenced by consumers' choices.

In recent years, the variety of footwear options available on the market has dramatically increased to respond to consumers' desire for less generic products.

Market research shows that two once emergent trends in consumer behaviour are here to stay: comfort and sustainability

A FOCUS ON SKILLS AND TRAINING

For the Erasmus+ SciLed project team, understanding market orientations is only a starting point.

In the case of comfortable as well as sustainable shoes, being able to keep up with these new imperatives requires specific knowledge and highly-skilled people that can make use of advanced technology and science: this is why SciLed's primary focus is to provide up-to-date training by refining and modernising qualification profiles.





Outcomes of previous EU education projects analysing comfort and sustainability in footwear manufacturing have been included in the SciLED project, which compiles the technical advances in footwear design. It is all about providing consumers with the final product they need and love.

LIFELONG LEARNING: STEP2SUSTAINABILITY

This European project looked to assist footwear companies in improving the sustainability of their production.

The project's first task was to organise a preliminary study to better understand what footwear companies knew and were doing in terms of sustainable footwear manufacturing. Taking the form of a survey, this study also assessed footwear companies' needs in terms of innovation and training (Step2Sustainability, 2016).

Based on this research, the Step2Sustainability partners created, developed and piloted new occupation and qualification profiles – Technician on Footwear Sustainable Manufacturing and Specialist Technician on Sustainability for Footwear Industry – as well as the corresponding training courses. These training courses are still available today and teach students about topics such as environmental legislation, eco-design, control of logistic resources, and sustainable packing and packaging resources.

SCILED: FOOTWEAR IN THE 21ST CENTURY

The project started on January 1st, 2019 and will be conducted over a three-year period. Its objective is two-fold: on the one hand, SciLed aims to introduce updated, high-level skills in footwear design curricula to train future footwear specialists able to answer to consumers' demands for more personalised and sustainable products while contributing to a better planet.

On the other hand, the modernised curricula and the innovative learning methods based on new technologies developed by the project team will render the footwear sector more attractive to young people



ERASMUS+: FIT2COMFORT

This European project helped companies incorporate comfort features when designing their products. A survey conducted by the project partners showed that 49% of interviewed companies did not have any technicians specialised in the comfort-related aspects of shoemaking (Fit2Comfort, 2017). Based on this assessment, the project partners defined a new qualification profile – Expert in Comfort and Healthy Footwear Manufacturing – and designed the corresponding curriculum and training material.

The courses developed during this project are still taught to students today and help them learn about the ergonomic and biomechanical criteria related to comfort, how to select adequate materials and components, define manufacturing strategies and set up the ideal conditions to create a product that contributes to comfort and wellbeing.





A COLLABORATIVE METHODOLOGY

The SciLed team is composed of fourteen partners from six different Member States: Belgium, Greece, Italy, Portugal, Romania and Spain. Each of them brings its expertise to the table: industry representatives, businesses, orthopaedic specialists, VET providers, Higher Education institutions and research institutes; all closely collaborate to make the project's objectives come to life.



A PROJECT BASED ON FACTS

This Knowledge Alliance's first step has been to conduct a preliminary study based on field research and interviews with businesses and educators. This study was centred around two questions:

- 1 What exactly is a comfortable and sustainable shoe? The partners have investigated and categorised different types of footwear according to comfort requirements, reviewed the role of materials and sole structure, defined comfort and sustainability parameters, and reviewed the computational tools and equipment that can help design comfortable and sustainable shoes.
- 2 What kind of qualifications are currently provided in these two fields? The partners have reviewed the skills and competencies that today's footwear specialists possess, as well as identified and evaluated the courses, learning tools and methods that are offered to students.



TWO UPDATED PROFILES

Based on the study's results, the SciLed project team has identified two specific profiles that play a crucial role during the product life-cycle with regards to comfort and sustainability: Footwear Designer and Product Manager. Next challenge will be to redefine the corresponding curricula with the expertise of businesses, expert groups, health specialists and other stakeholders involved in the footwear production process. A testing phase will allow for inputs from students and trainers to be taken into consideration, resulting in better tailored and more enticing curricula.



HIGH-QUALITY YET ATTRACTIVE CONTENT

However, what is a curriculum if courses and training material don't accompany it? The SciLed partners will, therefore, create content to support the two profiles. Advanced knowledge will be injected into the existing content in order to prepare students to use scientific advances when designing and producing footwear. Businesses will also collaborate with a view to present students with real, problem-based scenarios so that students can get acquainted with these new techniques while working on concrete cases.

The courses and training material will take different formats: modular courses, online material, videos and demonstration guidelines, etc. The SciLed team is both focused on form and substance and will provide high-quality yet attractive content.



INNOVATION AS GUIDING PRINCIPLE

It is because our Footwear Designers will be able to use technologies such as human bio-models and simulation scenario to influence the comfort and sustainability of their work, and because our Product Managers will know about the materials and manufacturing technologies affecting the shoes' quality, that their products will effectively be scientifically-led.



A FEEDBACK-BASED APPROACH

Because top-down approaches rarely work in the field of training, and because inputs from teachers and working footwear professionals should be highly-valued, the developed education material will first be put to test and validated during five seminars and workshops, each held in a different country. Selected experienced Footwear Designers and Product Managers as well as teachers and trainers will discuss the proposed training tools and content and provide feedback to the SciLed team.



One of the key aspects of the project is its focus on technology and computer-based tools

AN EVER EVOLVING PROJECT

The developed education material will first be implemented through a piloting phase in Spain, Portugal, Italy and Romania. This will allow for adjustments as well as knowledge-transfer between front-line teaching professionals and the project team.



A MANIFESTO TO GET SMEs ON BOARD

A manifesto stressing the many advantages SMEs would gain by co-investing and participating more actively in the work of Higher Education institutions and research centres will be prepared and widely disseminated.



WHAT MAKES SCILED RELEVANT: AN OVERVIEW OF CURRENT MARKET TRENDS

CONSUMERS ARE RELUCTANT TO COMPROMISE ON COMFORT

The EU Footwear Industry has to meet the ever-increasing expectations of consumers to whom comfort has become top priority. Footwear specialists have now to integrate higher manufacturing standards that take into account consumer wellbeing when designing their products. A survey carried out in early 2017 under the Fit2Comfort project showed that 50% of interviewees aged 22-55 years old suffer from foot and/or back problems. Poorly fitting footwear can lead to chronic foot pains, reduced mobility, decreased leg strength, reduced stability, and an increased risk of falls (Fit2Comfort, 2017). European consumers are becoming increasingly sensible to the importance of wellfitting, comfortable footwear as a crucial element to overall health and well-being: better performing and functional footwear can, therefore, contribute to a longer life expectancy and better life satisfaction. Statistics indicate a slight life expectancy decrease in the EU, estimated at 80.9 years in 2017 as opposed to 81 years in 2016 (Eurostat, 2019).



A 2017 EU-wide survey shows that men are more likely than women to rate their health as very good or good (Eurostat, 2019). This confirms the findings of a study published in Revista Paulista de Pediatria that wearing high-heels may favour the onset of postural disorders, especially forward head, lumbar hyper lordosis, pelvic anteversion, and knee valgus, but these problems are in direct proportion with the height and width of the heels (Silval, Siqueirall and Da Silva, 2013).



HEIGHTENED CONSUMER AWARENESS FOR SUSTAINABLE PRODUCTS

A second unavoidable trend is consumers' call for more sustainable and eco-friendlier products, a trend in line with the 2018 EU Circular Economy Package (European Commission, 2018) and the 2018 EU Single Plastic Strategy (European Commission, 2018). According to a recent survey conducted by Nielsen, 81% of global consumers say it is important for companies to put in place programmes that preserve the environment. Moreover: 73% of respondents say they would either definitely or probably change their consumption habits to reduce their impact on the environment (Nielsen, 2018), Because sustainable innovations are based on science, current and future footwear producers will have to be reskilled and upskilled in order to gain better knowledge and a deeper understanding of the technicalities required to design and manufacture more comfortable and sustainable footwear.





































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