



**INNOVATIVE DESIGN
PRACTICES FOR ACHIEVING A
NEW TEXTILE CIRCULAR
SECTOR**

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Design4circle e-Newsletter #2

Third Technical Meeting - 21-22 November 2019 Porto - Portugal - **Development of training materials - new practices on eco design**

The European Textile industry wants to increase the level of sustainability and innovation in the production and recycling processes. To achieve such purpose, it is essential that designers create products that have in mind some principles of circular economy. Environmental concern begins with product design. In order to help designers to reach this goal, partners from the European project “Design4Circle”, co-founded by the European Commission, are working together on the development of training materials, in order to provide designers and SMEs with the necessary competences and skills to implement new practices on eco-design.

“Design4circle” aims at increasing the competitiveness of European SMEs through a circular economy approach. After completing an analysis of the current best practices and skills needs on eco-design in different countries, partners met in Portugal to validate the work done and prepare for the next phases of the project implementation.

The consortium is created by research, training and business support organisations, universities and national associations from Latvia, Belgium, North Macedonia, Portugal, Romania, and Spain. Through the development of innovative eco-design concepts and eco-processes, the project partners pretend to contribute for the creation of new green jobs, especially for designers that follow the new recycling routes and business models towards a circular economy.

Upcoming Event:



May 2020- Iasi Romania Virtual meeting

[Forth Technical Meeting – Design4Circle](#)

Visits

Felgueiras, one of the most relevant location of the footwear industry in Portugal. During this 3rd meeting, project partners had the opportunity to discover what the Portuguese footwear industry has already done in terms of sustainability.

ISI soles - Founded in 1999, I.S.I. – Indústria de Solas Injectadas, Lda., produces 2.8 million pairs of soles annually and has a productive capacity of 4 million pairs per year. It's committed to assure assistance, development, service and quality for a competitive price.

Since the beginning of its activity, ISI adopts sustainable production principles and uses eco-efficiency as a reference for all operations carried out at the factory. Environmental concern begins with product design; it is at this development stage that the sole life cycle is defined, and its environmental impact is mitigated. Designers and technicians select the raw materials, calculate consumptions, define sole dimensions and, thus, they can influence the behavior and environmental performance in the following stages of production, transport, consumption and final deposition.

ISI Soles has acquired certification for its ISO 14001 and ISO 9001 integrated management system and was the first Portuguese footwear soles producer company to be recognized by the best international environmental practices.



During the visit, participants had the opportunity to see how soles are produced out of bio-based TPU – this type of production reduces the consumption of materials derived from fossil sources, as well as reducing CO2 emissions. They also produce soles out of Biodegradable TPU that meets European standards EN 13432 and EN14995 with soles decomposing at least 90% after 6 months. ISI also developed a Vegan soles line, this collection stands out, on one hand, for not containing any product of animal origin. On the other hand, it was conceived by recycled raw materials through the incorporation of 95% waste from the injection process in the production cycle creating a circular economy.

Carité Footwear - Carité is a footwear company, founded in 1986. Following a strategy that seeks to operate in a high-middle market segment, with high demands on the quality of the materials used and compliance with delivery times, the company has sought through continuous investment in new production, recruitment equipment and technical staff to overcome the main difficulties that arise. This allowed it to maintain sustained growth in turnover, which exceeded 10 million euros in 2009 and 20 million euros in 2018. The company has been continuously growing and it's now divided in 5 different companies specialized in different types of productions.



The Carité Group headquarters are in Felgueiras, together with Lança Raiz, both these companies are specialized in producing footwear. In São João da Madeira there is Brada, a company specialized in the development and production of high-end lady shoes. The other two companies are located in Celorico (Top Relevo) and Castelo de Paiva (Arka).



Best Practices

Conceptual Latvian fashion brand. Sustainable demi-couture fashion design. Brand based and produced in Latvia, available worldwide. Mainly black and white, made of natural materials like. Brand's philosophy: Fashion meets architecture and art.

Baiba Ladiga – Kobayashi (brand BAIBA LADIGA) is a conceptual designer based in Riga, Latvia. Designer has worked as a fashion design lecturer in Shanghai as well freelancer as a stylist and fashion illustrator internationally. Baiba Ladiga – Kobayashi is constantly looking for new shapes, materials and construction methods, very often draped, minimalistic, architectonic. Her garments and accessories are a perfect match for busy travelers or simply active life lovers, thanks to its functionality. Her idea is: fashion should follow our needs and not the opposite. Deconstruction plays a big role in the BAIBA LADIGA design as well. Besides Baiba Ladiga – Kobayashi main brand BAIBA LADIGA, designer has created diffusion line KOBAYASHI. At the moment her collections are sold in EU, Japan and China. Her Avantgarde pieces are worn by style icons like Lily Gatins.

Materials developed

Joint curriculum on eco-design for the circular economy in the textile and fashion industries

One of the outputs of the Design4Circle project is a Joint Curriculum on eco-design and circular businesses models for the textile and fashion industries.

The Design4Circle project aims to capture the opportunity to improve designers' knowledge, coming from the textile and fashion sector, regarding eco-innovation and circular economy. It will support professional designers and students through vocational education following industrial design education and/or during their active working life within the fashion and textile sectors. By improving or updating their knowledge and/or skills on eco-design and circular economy principles, the goal is to facilitate their personal and professional development.

No of Module	Title of the Learning Module	Learning hours	Self-study hours
1	Introduction to circular economy	6	6
2	Sustainability challenges in the textile and fashion industry	10	10
3	Materials for a circular economy	8	8
4	Design for a circular economy	14	14
5	Manufacture for a circular economy	8	8
6	Recycling technologies in a textile and fashion industry	10	10
7	Business management in a circular economy	14	14
TOTAL		70	70

The Curriculum was designed to focus on key relevant areas of knowledge, while pedagogical methodologies were optimized to fit the variety of job profiles and the target industries. It systematically identifies learning outcomes, as well as training units developed to address the specific needs of certain job profiles. It also includes principles of circular business models to foster entrepreneurship and the development of innovative SMEs in the area of textile eco-design.

For the validation of the defined Joint Curriculum, a survey was distributed among SMEs, business support organisations, VET centres, educational institutions, experts, in order to collect feedback and to get additional insight on the Joint Curriculum. The survey was organized on line by each project partner and was answered by 43 individuals from 26 companies, 16 educational institutions and 1 business support organization.

Most of the companies and experts validated the chosen modules, lessons and topics, and considered them essential to the textile and fashion. Furthermore most of the companies and experts agree that the designated modules will increase HR excellence, facilitate the implementation of sustainable practices in the textile industry, and will encourage new business opportunities.

Municipal secondary vocational school „Gjorche Petov" Prilep, North Macedonia

“The idea for the training is great. The basis is the schools. Young people need to have knowledge in this area of why they will work and run businesses in the future. Eco-design and circular economy are the future.”

Rezekne Academy of Technologies, Latvia

“A joint curriculum on Eco-design for the circular economy in the textile and fashion industries is necessary. It will significantly enhance designers' and students' knowledge, by improving or updating their knowledge, and / or skills on eco-design and circular economy principles, from the textile and fashion sector standpoint. The program complies with competency-based learning requirements, defines learning outcomes, and offers online learning while also providing opportunity for independent work.”

Best practices

North Macedonia has been ranked Europe's most polluted country, according to the European Environment Agency (November 2018). People from creative industries are those who can convey a different world view and hence the responsibility to change things around us, for better.

Irina Tosheva is a Macedonian fashion brand, founded in 2012, and a label that binds latest trends, technologies and various ways of creative expression. Producing collections twice a year (spring/summer, fall/winter) hinges from a central theme, which inspires the fundamental prints, shapes, sustainable fabrics and presentation. Considered garments are defined as fresh, fun and forward thinking, as the process behind their creation runs deeper than just clean lines and following trends. For the collections Tosheva collaborates with many artists and designers, actively participating in various projects to raise some awareness and philanthropy, as an integral part of her work.



Patzaikin is a Romanian fashion and lifestyle creative Ecosystem founded in 2011 in Bucharest by architect Teodor Frolu and his partner, Olympian Ivan Patzaichin.

Romanian *Ivan Patzaichin* is, with no doubt, a true champion. His career saw him win seven Olympic and 22 world championship medals for canoeing in the 1970s and 1980s. Now aged 69, Patzaichin developed a new passion: promoting his native Danube Delta while campaigning for slow tourism and sustainable food and fashion in the region. In 2011 he founded Patzaikin, alongside business partner, Teodor Frolu, and fashion designer Olah Gyarfás. "Our fundamental idea was always to use authentic Romanian materials," Ivan Patzaichin explains. "We want to promote and revive what Romania used to be 30 years ago. Our country was the biggest exporter of hemp with well-developed textile industry," he recalls.

Innovation

Infinite fiber (Finland)

In fashion take-make-dispose mentality is the contemporary reality. This has made fashion one of the heaviest burdens to the planet. At the same time there simply isn't enough cotton available and demand is growing. The need for impactful solutions to save fashion & our planet, has led to the creation of Infinite Fiber.

Textile, paper and cardboard waste can be used to produce a cotton-like, soft textile fibre using Infinite Fiber's technology. The cellulose in the raw materials is processed into a 100% cellulose solution and reshaped into ready fibre using nozzle technology. The fibre can be used to solve the environmental problems caused by textile production and textile waste disposal.

