


# fashion alive

 Ref. Ares(2023)3776305 - 31/05/2023

DELIVERABLE NUMBER 2.2

TITLE Collections portfolio –  
CIRCULAR FASHION

DUE DATE 31 may 2023

DATE OF ACTUAL DELIVERY TO EC 31 may 2023



Funded by  
the European Union

GRANT NUMBER	101056307
PROJECT ACRONYM	Fashion Alive
DURATION	24 months
WEBSITE	<a href="https://fashion-alive.com">https://fashion-alive.com</a>
PROJECT COORDINATOR	Gisela Fortuna – CREAMODITE
COORDINATOR CONTACT	<a href="mailto:gisela@workef.com">gisela@workef.com</a>

WORK PACKAGE	2
WORK PACKAGE LEADER	UMINHO
RESPONSIBLE	UMINHO
DELIVERABLE VERSION NUMBER	0.3
DISSEMINATION LEVEL	PU – Public
AUTHORS & INSTITUTES	Ana Broega, UMINHO  Joana Cunha, UMINHO

ABSTRACT	<p>The following portfolio presents a comprehensive overview of the Circular Fashion design methodologies developed by UMINHO.</p> <p>It documents the Circular Fashion, based on Upcycling creation from post-consumer discarded apparel, documented through creative <i>moulage</i> on mannequin, assembly of parts by sewing, and look-book images of the final collection.</p>
----------	--

## TABLE OF MODIFICATIONS

Version	Date	Author	Reason for change
v0.1	27/03/2023	Ana Broega, UMINHO	
v0.2	24/04/2023	Joana Cunha, UMINHO	Comments and suggestions
v0.3	30/05/2023	Ana Broega, UMINHO	Final version

## TABLE OF CONTENTS

---

Introduction	5
The need for sustainable fashion	6
Circular Fashion and the Upcycling Technique	7
Experimentation Methodology and Prototyping	9
The Circular Collection	11
Analysis of results and conclusions	21
References	22

## Introduction

Fashion Alive is a project dedicated to sustainable fashion. It was born from the spirit of collaboration between people, companies and Universities in the European Union, within the framework of the Creative Europe program.

Its mission is to promote the future of sustainable fashion, studying and developing sustainable fashion design, production and communication standards.

To that effect, project partners CREAMODITE, UCAMPANIA and UMINHO are each working on their own approach to sustainable fashion.

UMINHO as a project member has focused their research methodology in exploring the creation of fashion items recycling materials coming from second-hand clothes and other sustainable materials. UMINHO techniques depart from the concept of Circular Fashion to promote the use of materials that can represent a signi-

ficant textile waste reduction in the environment.

As part of the project's mission to disseminate innovative sustainable fashion design methods and raise awareness about the importance of a circular textile and fashion industry, each partner will showcase their collections in an innovative format combining conventional runway shows with performative elements, such as dancers, music and digital engagement strategies.

The creations described in the following portfolio will be showcased in a series of two days events in Guimarães, featuring roundtable discussions about sustainable fashion, followed by the performance runway show.

## The need for Sustainable Fashion

The fashion industry is one of the most impactful in the world in environmental and social terms. The mass production of clothing and accessories consume abundant natural resources such as water, energy and raw materials, and generate an enormous amount of waste and pollutants that affect the environment and human health. In addition, one of the biggest problems that affects the planet today is the large amount of post-consumer textile waste. From the 20th century, this trend was enhanced due to the purchasing power of the middle classes and the emergence of fast-fashion. Most apparel produced by the fashion industries ends up in landfills (Ellen MacArthur Foundation, 2017, pp. 18–19). About a truckload of clothing is dumped in landfills every second (Ellen MacArthur Foundation, 2017, p. 20).

From a global point of view, we can say that 87% of textile discards are deposited in landfills or incinerations, 13% are somehow recycled, – 12% are recycled in a down-cycling way, (for products with lower quality) value and only 1% is recycled into new parts (with identical level of quality), (Ellen MacArthur Foundation, 2020, p. 7).

Faced with this problematic issue, the challenge is to work towards a more sustainable fashion market and more conscious consumption. Which involves contributing to fashion productions that seek solutions that allow the production of clothing and accessories in a more circular fashion, considering the environmental impacts of linear industrial processes.

A more sustainable fashion system may involve: the use of organic, biodegradable materials; the use of more efficient and less polluting technologies; the reduction of raw material and energy waste; the promotion of fair and safe working conditions for fashion workers; but mainly to promote the recyclability of materials.

## Circular Fashion and the Upcycling Technique

Circular Fashion is an approach that seeks to change how the fashion industry produces and consumes clothing and accessories, making the system more sustainable and responsible. Circular fashion comes in line with the Circular Economy model, which is a concept that has been discussed since the 1970s and became known worldwide after the release of a report by the Ellen McArthur Foundation (EMF) in 2012, it evaluates the economic potential of the benefits of a transition from the regular/linear economy to a circular one (WAUTELET, 2018). EMF defines the Circular Economy as a system capable of making the transition from the traditional linear economy, which extracts natural resources, manufactures products that are discarded at the end of their useful life, to a circular economy model, based on the reduction of waste generation and pollution, in the circularity of products and materials and in the regeneration of nature, increasing the life cycle of products and materials (Ellen Macarthur Foundation, 2013a).

Upcycling is a technique of reuse that meets the principles of Circular Fashion and consists of transforming materials and garments that would otherwise be discarded, into new products, with greater added value and lower environmental impact. In fashion, this can involve the reuse of fabrics, scraps, used clothes (post-consumer) or unused objects to create new pieces of clothing, accessories or even decorative objects. By using the upcycling technique, it is possible to reduce the waste of resources and raw materials, in addition to promoting

creativity and Innovation in fashion design. Furthermore, this technique can help preserve the history and culture of a particular place or community by transforming old materials and objects into new creations.

Circular fashion and the upcycling technique are important initiatives to promote a more sustainable and conscious fashion industry, contributing to reducing the environmental impact and promoting fairer and more ethical practices in the production of fashion clothing and accessories.

## Experimentation Methodology and Prototyping with the Upcycling Technique

One of the main characteristics and advantages of upcycling is its personalized and unique nature in clothing creation. Each piece produced using this technique carries out with it a different history and design, as it is the result of transforming existing materials.

However, it is important to be careful when producing garments through upcycling. First, it is necessary to select materials with quality and in good condition to ensure the durability of the new clothing, particularly when working from post-consumption clothes. Checking that fabrics are free of tears, stains or other damage parts is essential to ensure the quality of the final product.

In addition, it is important to have technical skills to carry out the necessary transformations. This may involve modeling, cutting, sewing, dyeing, textile printing and other processes that will shape the new piece. Knowing the right techniques and having the right tools are important factors for the success of the upcycling project.

Another aspect to consider is experimentation. Upcycling allows for creative freedom and the spirit of innovation. It is possible to experiment with different combinations of materials, colors, prints and textures to create truly unique items. Experimentation on a mannequin by *moulage*\* techniques normally encourages the exploration of new ideas, resulting in original and surprising creations.

However, it is important to keep in mind the functionality and usability of the final clothing. Aesthetics are funda-

mental, but the piece must also be comfortable, practical, and suitable for its intended use. It is necessary to find a balance between creativity and functionality, so that the new item is appreciated and valued on its day-to-day use.

Upcycling is a form of artistic and sustainable expression that allows to give a new life to a discarded material. By adopting this technique, fashion designers contribute to reducing waste, preserving natural resources, and promoting conscious consumption. Furthermore, upcycling challenges us to rethink our relationship with objects (in this case clothing), stimulating creativity and valuing what we already have around us.

To explain the process in a schematic way, the development of two products is presented as an example.

*\*moulage*, also known as Draping, is a manual technique, which sees the fabric "sculpted" directly onto a tailor's mannequin through manipulation of the cloth or fabric, and the use of pins and a pair of scissors, giving it a geometrical shape and a fluid and distinct design. Moulage enables a piece of clothing to be created directly on the mannequin, without the standardized imitations of pattern-cutting. Therefore, the pattern is not constructed from a flat two-dimensional figure, but is built through a three-dimensional perspective (<https://www.daniloattardi.it/en/moulage-draping-danilo-attardi/>)



## Model 1 – Reversible TOP Garment

For the manufacture of this reversible top, two discarded children's shirts were chosen (fig 1). These still present their textile materials in good quality and maintenance conditions. The materials of the shirts are checked in different sizes with colors that can be combined in aesthetic terms (this combination will be dependent on the designer's aesthetic sensibility). The process involves dismantling the shirts and manipulating the fabric parts on the mannequin until a garment is created, which in this case was a top. The pieces were then cut according to a pattern created for this new model (fig. 2) and sewn together in order to join two different layers, one for the outside and the other for the inside of the top, since it was intended to create a reversible piece (that could be dressed

on both sides), with different patterns on each side, thus increasing its potential for use.

The use of the upcycling technique in the creation of this top not only promotes sustainability, but also exclusivity. As each shirt is unique in its characteristics, the end result is a top with a personalized and unique touch (figure 3).



Figure 1. Original Shirts (Source: created by the author)



Figure 2. Process (Source: created by the author)



Figure 3. Final garment (Source: created by the author)

## Model 2 – Transformation of dress into kimono

The process of creating a kimono using the upcycling technique, with the reuse of a printed dress, with textile materials in perfect quality conditions, is the same as previous. The kimono is a garment that originates from Japanese culture and has been adopted around the world as an elegant and sophisticated fashion piece. With a sustainable approach, the creation of this kimono with the use of upcycling, transformed an old dress (fig. 4) that would be sitting in a wardrobe, but with emotional value for its owner, in a new exclusive and timeless piece of clothing (fig. 6).



Figure 4. Original dress (Source: created by the author)



Figure 5. Process (Source: created by the author)



Figure 6. Final garment (Source: created by the author)

## The Circular Collection



Source: created by the author





Figure 9A. – Creative *moulage* on mannequin (Source: Group 4 (Vera Rodrigues))



Figure 9B. – Creative *moulage* on mannequin (Source: Group 3 (Vera Rodrigues))

## CIRCULAR FASHION LOOKS



Design by Tatiana Alves G1



Design by Mariana Silva G3

## CIRCULAR FASHION LOOKS



Design by Gabriela Duarte G1



Design by Valeria Sousa G

## CIRCULAR FASHION LOOKS



Design by Maria S. Guimarães G3



Design by Ana Biatriz Nunes G3



## CIRCULAR FASHION LOOKS



Design by Ana Carolina Gonçalves G4



Design by Ana Sofia Gonçalves G6

## CIRCULAR FASHION LOOKS



Design by Rita Vicente, G6



Design by Sara Mata G6

## CIRCULAR FASHION LOOKS



Design by Carolina Oliveira, G7



Design by Inês Vilas-Boas G7

## CIRCULAR FASHION LOOKS



Design by Ana Rita Brandão, G5



Design by Joana Coutinho G5

## Analysis of results and conclusions

The results presented in this report correspond to a part of the work carried out in the curricular unit (CU) of Fashion Design Project V during the academic year of 2022/2023, by the students of the 3rd year in Fashion Design and Marketing graduation course at the University of Minho. This work was developed within the scope of the Creativity and sustainability workshops for fashion. These Workshops composed the first part of the CU's work, which consisted on developing upcycled conceptual garments to work as inspiration and guideline for the creation of their final capsule collection. The students have to create this final collection within a design methodology for the sustainability and circularity of Fashion.

It should be noted that the exploration of this methodology took place within the scope of a training process and as such, the emphasis is placed more on the design process and on the skills that these future designers acquire, than on the sewing quality of the final prototype.

The main objective was to empower the students with the knowledge of this upcycling methodology and also to make them aware of the recyclability difficulties of the clothing resulting from Fast Fashion Industry, for example the low quality textile materials.

This project also allows working in a more evident way the communicate of these sustainable values. This is achieved through the presentation of the final result in a fashion event to be held in a public place in the city of Guimarães, next June. It also makes possible to communicate in a wider organized and active way the principles and values of sustainable fashion through social networks, mainly by the international networks promoted by each of the project partners.

## References

Bento, A. J. (2013), Sistema Integrado de Gestão de Resíduos de Vestuário Usado para Portugal: SIGVETU. Lisboa: Business&EconomicsSchool.

Berlim, L. (2012), Moda e Sustentabilidade: uma reflexão necessária . São Paulo: Estação das letras e cores.

ELLEN MACARTHUR FOUNDATION, (2013), Transitioning to a circular economy business. [S. l.]. <https://ellenmacarthurfoundation.org/towards-the-circular-economy-vol-1-an->

Ellen MacArthur Foundation, (2017). A new textiles economy: Redesigning fashion's future. <http://www.ellenmacarthurfoundation.org/publications>.

European Environment Agency, 2023: Textiles and the environment: the roll of design in Europe's circular economy. Briefing no. 01/2022. doi:10.2800/578806

Salcedo, E. (2014). Moda Ética para um Futuro Sustentável. Editorial Gustavo Gili.

WAUTELET, Thibaut (2018). The concept of Circular Economy: Its origins and its evolution. Luxembourg, n. January, p. 30. DOI: 10.13140/RG.2.2.17021.87523.

# **fashion alive**