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FASHION TRENDS IN AN ECO-FRIENDLY CONTEXT

Purpose

This paper depicts some aspects of modern trends in the environmental friendliness of fashion industry production and the sustainability of its products using modern digital technologies.

Novelty. An anthropometrically substantiated complex 3D footwear form, which is possible to realize by additive prototyping, has been developed. The shape of the shoe includes a last developed based on the results of a 3D foot scan, a monolithic shape of the shoe, and a 3D shape of the sole.

Main scientific results

The oversaturation of the world market with the fashion industry products has been evident for a long time.

You are
what you
wear

In the EU countries, each person consumes on average sixteen tons of resources per year, of which six tons are waste.

**BUT NOW THE ERA OF
THOUGHTLESS CONSUMERISM
IS
ENDING**

1 CIRCULAR ECONOMY

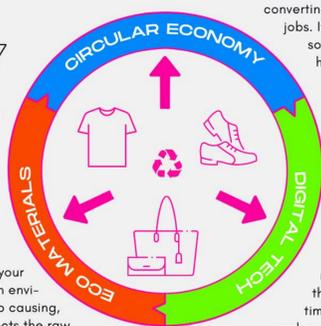
Circular economy will increase the efficiency of enterprises and reduce waste, converting waste into money and creating new jobs. It aims to improve the quality of life of society and provides practical answers to how natural resources could be conserved for future generations.

3 ECO FABRICS

The type of fabric used to make your clothing will determine how much environmental degradation it ends up causing, as the fabric choice directly affects the raw material sourcing (farming and ecosystems), material processing (chemicals and pollution), and end-of-life prospects of clothing (disposing).

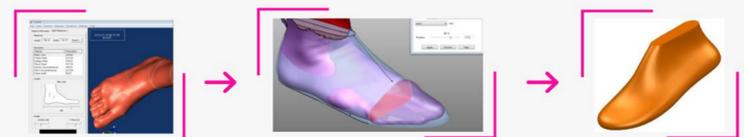
2 EMERGING TECH

The use of 3D resources is used to model the shape of products, simplify the product development process, optimize collaboration between designers and customers. The use of computer technology is capable of increasing the eco friendliness of production and achieving a more perfect form of the product.



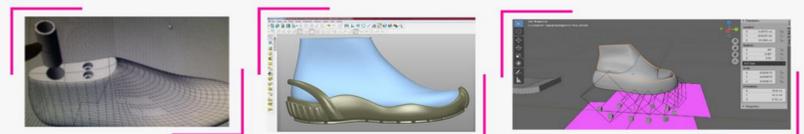
WAYS TO ECO-IMPROVEMENT OF FOOTWEAR INDUSTRY WITH DIGITAL TECHNOLOGIES

1 3D FOOT SCAN & MODELING AND PROTOTYPING



Production of ergonomic footwear with substantiated inner shape based on 3D foot scan results

2 3D DESIGN FOR ADDITIVE PROTOTYPING LASTS, SOLES AND FOOTWEAR



Developing the shape of a last

3D sole modeling and further prototyping

Developing the shape of mono-component footwear

3 3D PRINTING LASTS, SOLES AND FOOTWEAR



3D printing lasts

3D printing soles

3D printing footwear

Conclusion

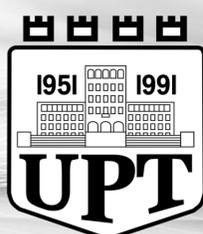
The use of computer technology in the footwear industry, where the environmental performance is the worst, is capable of increasing the environmental friendliness of production and achieving a more perfect form of the product, capable of recycling or disposal.

The experiment conducted in the work on the development of footwear elements and equipment with the prospect of their manufacturing by additive prototyping showed that 3D modeling of shoe shape elements solves a number of problems:

- Possibility to customize the product to meet the needs of the consumer
- Introduction of low-waste and non-waste manufacturing
- Simplification of technological processes of production
- Improving recycling and upcycling opportunities
- Reducing dependency on manufacturers and suppliers of footwear components.

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