



## Digital Fashion Project

Collaborative Online International Learning in Digital Fashion

# Guide for best practices and new project ideas

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## 1 Introduction

The Joint Staff Event, which took place from 7 to 9 October 2024 at the University of Maribor, Faculty of Mechanical Engineering, Slovenia, marks an important milestone in the Erasmus+ Digital Fashion project. The event served as a round table for the presentation and discussion of the most important project results, with a focus on the progress made in virtual prototyping for clothing. At the centre of the event was a planned training activity designed to promote the development of competencies and skills needed for the sustainable transfer of innovative training and learning approaches based on the project results in each partner country. The training improved educational resources but also promoted the exchange of good practices between institutions.

The event aimed to foster collaboration and creativity, culminating in the development of a comprehensive best practice guide summarising new insights and methods for integrating the virtual prototyping approach into research, industry and education. Participants at the Join Staff Event presented innovative ideas in three main areas:

- technological advances,
- marketing strategies and
- educational initiatives

on the topic of virtual prototyping of clothing.

A total of 20 project ideas were presented, with contributions of all partners from the INCDTP, CITEVE, HOGENT, TU IASI, ENSAIT and UM. This joint effort not only emphasises the innovative spirit of the participating institutions but also aims to set a benchmark for future initiatives in the field of virtual prototyping of clothing.

This Guide will be available on the Moodle platform and the Digital Fashion project website to increase its reach and usefulness.



## 2 Groups of new project ideas

The guide of best practise and new project ideas is based on the findings of the PR1 survey and interviews involving all partners in five European countries. It was found that the use of virtual fashion technologies in the garment development process and the presentation of garments on the fashion market is still a relatively young and new branch for companies. European companies are keen to introduce virtual garment prototyping technologies into their organisations. They are very interested in using virtual prototyping technologies for clothing in the future, especially for developing clothing samples, for the virtual 3D presentation of collections to customers and virtual fitting.

This encouraged the project partners to collaborate further to strengthen the field of virtual garment prototyping from the perspective of research, industry and education.

In the table below, they have developed conceptual project ideas and categorised them into three groups of project solutions, technological advances, marketing strategies, and educational initiatives related to virtual garment prototyping.

Most of the project ideas, namely eleven, were technological ideas in connection with the virtual prototyping of garments. Of these, three project ideas are suitable for project applications from the perspective of technological innovation in the field of 3D scanning of historical garments, the design of products from metamaterials and the use of artificial intelligence as a catalyst for sustainable fashion. The other project ideas are in the area of technological demonstration of the development of various clothing products and two of the latter also relate to marketing.

Collected were two marketing strategies related to the digital fitting room APP and sustainable brands of recycled and upcycled clothing.

Seven project ideas are related to educational initiatives that deal with the virtual prototyping of garments. Most of the project ideas relate to the digitisation of clothing heritage, its preservation and transmission to younger generations through learning platforms.



TECHNOLOGICAL PROJECT IDEA RELATED TO VIRTUAL GARMENT PROTOTYPING			
Partner	Project title	Domain of interest	Project type/funding
UM	Research on the 3D scanning of historical garments for their virtual reconstruction	Research	Tech innovation
UM	Comprehensive environmental impact assessment and sustainable digitization strategies for the preservation of garments through virtual replicas	Research	Tech demonstration
UM	Virtual fashionable barefoot footwear research	Research	Tech demonstration
UM	Customized Functional Product Design Using Tailored Metamaterials and Virtual Twin 3D Modelling	Research	Tech innovation
HOGENT	Virtual Prototyping of Compression Clothing for Medical and Sports Applications	Research	Tech demonstration
HOGENT	Enhancing Inclusivity in Fashion Design for Diverse Body Type (Obese Individuals) via Virtual Prototyping	Research	Tech demonstration
INCDTP	The smart design of leisure sportswear using 3d simulation software. Development of a virtual collection	Research/marketing	Tech demonstration
INCDTP	Implementation of a flexible supercapacitor into a rescue PPE for energy supply of a GPS tracker	Research	Tech demonstration
CITEVE	Artificial intelligence as a catalyst for sustainable fashion	Research	Tech innovation
TU IASI	Protective Equipment Design	Research	Tech demonstration
ENSAIT	Creating of an intelligent fashion e-shop for garments	Research/Marketing	Tech demonstration
MARKETING STRATEGIES RELATED TO VIRTUAL GARMENT PROTOTYPING			
Partner	Project title	Domain of interest	Project type
UM	The platform for empowering fashion students and fashion designers to build strong, sustainable brands of recycled	Marketing	Education



	and upcycled clothing		
CITEVE	My digital fitting room APP	Marketing	Tech innovation
<b>EDUCATIONAL INITIATIVES RELATED TO VIRTUAL GARMENT PROTOTYPING</b>			
<b>Partner</b>	<b>Project title</b>	<b>Domain of interest</b>	<b>Project type</b>
UM	International collaborative online learning about clothing heritage - virtual national costumes of the project partner countries	Education	E-learning
UM	International collaborative online learning about clothing heritage - virtual reconstruction of historical garments based on famous paintings from the project partner countries	Education	E-learning
UM	International collaborative online learning about clothing heritage - virtual reconstruction of historical garments from museums of the project partner's countries	Education	E-learning
UM	International collaborative online learning about clothing heritage – embroideries of traditional costumes from the countries of the project partners	Education	E-learning
UM	Development of digital textile patterns and clothing for tourism workers	Education	E-learning
UM	The Digital Eco-Friendly Materials Library: A Resource Hub for Sustainable Fashion Innovation	Education	E-learning
TU IASI	Solutions for the sustainability of fashion companies	Education	E-learning



### 3 Funding opportunities at the European level

Partnership projects on the European level have a deep and significant meaning. The first important meaning considered is the defragmentation of the research and educational initiatives in Europe and the second meaning is related to interdisciplinary and intercultural cooperation. The COST program was the first EU program for the development of partnership networks built by several organizations from different EU countries, focused on solving a common scientific topic of interest. The COST program (<https://www.cost.eu/>) started in the 70s' and is even today one of the most active funding programs for partnership networks on the EU level. The Framework Program 5 (1998-2002) was one of the first EU research funding programs with high relevance on enlarged European partnerships (<https://cordis.europa.eu/programme/id/FP5> ). Its successors, the FP6 and FP7 EU programs reached a high visibility and impact on all the research organizations in Europe. Nevertheless, the Horizon 2020 and Horizon Europe programs for funding research and innovation projects on the EU level, still keep the transnational partnership structure, meant to foster cooperation between the various actors in the European Research Area (ERA - <https://european-research-area.ec.europa.eu/> ). The Framework program as well as the Horizon Europe program includes top-down calls which means the specific research topics are established by the program's experts and have to be followed by the proposers.

On the other hand, an EU program with a bottom-up approach is the Eureka program. Eureka is funding innovation research projects on scientific thematic areas proposed by the partnership organizations and has generally an SME as coordinator and applicator of the research results. The Eureka program started in 1985 and has at this moment several 48 participating countries:

(<https://www.efsa.europa.eu/en/funding-programmes/eureka> ).

Moreover, the EC is very focused on educational partnership programs too. The Life Long Learning program (2007-2013) and its successor the Erasmus+ program (2014-present) had a great impact on vocational education and training as well as on higher education through the implementation of many new educational materials (<https://erasmus-plus.ec.europa.eu/projects> ). The main properties of these educational materials are the innovative character, the complementarity character and well as the transferability. The search engine on the Erasmus+ results platform offers free access to a large diversity of educational materials, achieved within the accomplished partnership projects.

As such, the technological, educational and marketing project ideas presented and discussed within the Joint Staff Event at the University of Maribor (October 2024),





have a large potential of building the starting point of partnership project on the current and future EU calls. All participants have initially carefully evaluated their project ideas and specified the envisaged EU call as well as the partners sought. Since all the presented ideas have a great potential of being valorized in future project proposals, the project partners have established to keep the detailed ideas confidential at this stage.

The DigitalFashion Joint Staff Training event at the University of Maribor was an excellent opportunity to develop new partnership projects and initiatives on the EU level.

## 4. Conclusion

The Joint Staff Event held in October 2024 at the University of Maribor marked a significant achievement for the Erasmus+ Digital Fashion project, offering a valuable platform for the exchange of ideas and best practices in the field of virtual garment prototyping. The event highlighted technological, marketing, and educational advancements, with a particular emphasis on the integration of virtual prototyping into garment development, marketing strategies, and educational curricula.

The collaborative efforts of project partners have resulted in a diverse range of conceptual ideas, categorized into technological advances, marketing strategies, and educational initiatives. Notably, technological innovations such as 3D scanning of historical garments, metamaterials, and AI for sustainable fashion were identified, alongside marketing strategies focused on digital fitting rooms and sustainable clothing. Additionally, several educational initiatives aim to preserve and digitize clothing heritage for future generations. These efforts collectively demonstrate the potential of virtual garment prototyping to shape the future of the fashion industry through innovation, sustainability, and education.



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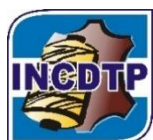
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