Circularity related projects

Project Name	Aim
CISUTAC	CISUTAC aims to remove current bottlenecks in order to increase **textile circularity** in Europe. The objective is to **minimise the sector's total environmental impact** by **developing sustainable, novel, and inclusive large-scale European value chains**. CISUTAC also raises awareness among EU citizens about the environmental impact of buying new clothes and the benefits of reusing, donating and shopping second hand textiles. Thanks to the stores, e-commerce platforms and social media networks of partners, CISUTAC expects to reach around two million people.
ALIGNED	ALIGNED will advance the scientific field of **Life Cycle Assessment (LCA)** and collaborate with industries and representatives from five bio-based sectors: construction, woodworking, textile, pulp and paper, and bio-chemicals. ALIGNED will develop a modelling framework to perform high quality assessment studies across the bio-based sectors, with industrial relevance and interoperability The framework will be tested and improved via iterative application in five specific cases of biobased industrial technologies, one for each sector.
BioFibreLoop	How is BioFibreLoop going to help the **EU's textile** sector transformation towards more **sustainability**? Our concept encompasses four essential aspects: the use of **bio-based materials**, the development of a biomimetic functionalisation technology, the application of the resulting textiles in industrial settings, and the establishment of recycling routes for the bio-based materials.
Bio-LUSH	Bio-LUSH unlocks the hidden potential of European plant resources, such as forest residues, marine plants, and weeds. Through advanced fiber extraction and tailored properties, we produce **high-value fibers for textiles**, food packaging, and reinforced composites. By revitalizing marginalized areas and promoting circular biomass use, Bio-LUSH plays a crucial role in fostering the expansion of Europe's fibrous bioeconomy, addressing socio-economic challenges, and working towards a sustainable future.
BioSusTex	The EU-funded BioSusTex project aims to drive **policy change** and develop pioneering technologies and tools for a **greener textile value chain**.

	These initiatives are in line with the **Safe and Sustainable-by-Design (SSbD)** framework, designed to promote sustainable innovation within the textile industry.
CALIMERO	CALIMERO is a European Project whose goal is to create a common framework for the **Life Cycle Assessment** methodologies of certain bio-based industries' sectors.
CELLFIL	CELLFIL is a project aimed at transforming the European textile value chain by developing **sustainable, bio-based Lyocell filaments**. Made from biodegradable and circular raw materials such as wood, orange peel, textile waste, and other second-generation (2G) feedstocks, these filaments are designed to replace synthetic fibers addressing both the environmental and social impacts of the textile industry. The project will drive innovation across the value chain by defining business models and strategies for market adoption by 2030, ultimately contributing to the development of a **circular textile economy** in Europe.
CIRTECHTEX	The CIRTECHTEX Project's ambition is to uptake **circular economy** approach to dramatically reduce technical textiles waste generation and upcycle them into high-grade PPE fabrics. The goal of the project is to achieve the **recycling of textile waste**, using a minimum of 20% recycled pre and post-consumer material in a minimum of the 80% of PPEs manufactured.
Circula-TEX	Circula-TEX is a Horizon Europe project that aims to support the EU strategy for **Sustainability and Circular Textiles**. The project seeks to redesign textile value chains by developing circular economy strategies aligned with **Extended Producer Responsibility (EPR)** policies.
CRAFT-IT4SD	CRAFT-IT4SD aims to transform the cultural and creative sectors and industries (CCSI) towards the **green transition** by **activating the rich crafts and creative art heritage and the strong design traditions nested in the European fashion and clothing sector,** and to renew these traditions through cross-sectoral co-creation with immersive media and extended reality technologies, to explore new sustainable design and production processes through digital technologies, tools and lab-environments as well as new ways of engaging more sustainable consumer behaviour through gamification, immersive storytelling and co-designing processes in immersive media-environments.

Hemp4Circularity	Hemp4Circularity is an Interreg NWE project that aims to implement an innovative, local and **biobased ecological fibre - the long fibre hemp** - in the textile value chain of North-West Europe, from growers to weavers/knitters, from field to fashion. The project sets up pilot actions at several stages of the value chain (cultivating, primary processing, data-driven farming, spinning, fabric production) to optimize all stages of the production, in order to be durably implemented, from fiber to recycling solutions. With this project, from field to recycled fibre, hemp is a driver of circularity in the textile industry!
Just Fashion	Just Fashion aims at accelerating **climate transition in the fashion industry**, by providing businesses in the partner countries with a **reference framework** and tools to shift their production methods, internal procedures and final products towards more **sustainable models** that are a lower carbon, circular and socially inclusive.
LIFE TREATS	LIFE TREATS is a joint project by Södra, a Swedish producer of pulp, and Lenzing, a leading global supplier of specialty fibres based on cellulosic and recycling material, aiming to demonstrate an innovative industrial-scale system for **chemical recycling of blended textile waste**. Södra and Lenzing have been working together on textile recycling since 2021, making a crucial contribution to the promotion of **circularity in the fashion industry**.
PENGUIN	The PENGUIN project is focused on transforming the outdoor textile market by aligning it with EU's climate action and sustainability goals. Its main objective is to develop **bio-inspired, high-performance textile materials** that are safe, sustainable, and suitable for outdoor use. These efforts involve the production of advanced cellulose-based fibers and fabrics using innovative biomimetic chemistries to achieve properties such as enhanced hydrophobicity. This development aims to meet specific performance standards required for **outdoor apparel** while adhering to the **Safe and Sustainable by Design (SSbD)** principles.
PESCO-UP	PESCO-UP develops sustainable, economically viable processes for **upcycling mixed polyester/cotton (PES/CO) textile waste** into high-quality cotton and polyester products. By 2025, textile waste collection will be mandatory in EU member states, and PESCO-UP aims to lead the charge in transforming this societal challenge into a business opportunity.
pHYBi	pHYBi is an initiative funded by the Circular Bio-based Europe Joint Undertaking (CBE JU) that aims to combine the **phytoremediation of polluted soils** with the valorisation of lignocellulosic biomass to contribute to soil health and a **bio-based circular textile industry**.

PLASTICE	By implementing cutting-edge technologies along the whole **recycling value chain** and by valorising plastics that are not being separated, the PLASTICE project will **valorize a wide range of unsorted plastic and textile waste**. By preserving the performance of the valorisation process against feedstock variations and by protecting the products' quality for their subsequent usage in industrial applications, the goal is to close the loop.
PROPLANET	The main goal of PROPLANET is to **design and optimise 3 innovative coatings** for the following industrial sectors: textile, food packaging, and glass. The developed solutions will be cost-effective, high-functional, safe, and sustainable, aiming to substitute current PFAS-type coatings.
RE-APS	RE-APS is an innovative initiative that aims to **transform our textile waste into a valuable resource**. Concretely, the objective is to facilitate, on an industrial scale, the **recycling of polyester waste** via a thermomechanical process consisting of pre-treating, grinding, melting this waste and reusing it in the textile industry.
RegioGreenTex	In the framework of the **European Green Deal**, RegioGreenTex is a project **promoting the collaboration in research and development for the textile industry** between the four major sectors of society - industry, government, research institutes, and the public - in establishing a systematic circular economy business model across the EU.
SOLSTICE	SOLSTICE addresses key social and technical challenges within the textile industry. Through active demonstration in four European regions, the project showcases the implementation of **climate-neutral practices and the transition towards a circular economy specifically tailored for the textile sector**. Our comprehensive approach encompasses all stages of waste prevention and management, guided by a holistic **5R strategy**: Refuse/Reduce, Reuse, Repair, Repurpose, and Recycle. The SOLSTICE project supports sustainable growth in the textiles sector by raising customer awareness, enhancing recycling with new sorting methods, ensuring **feedstock traceability using the Digital Product Passport**, and providing data and guidelines to decision-makers.
SUBBIMATT	SUBBIMATT Project will develop biobased and **bioinspired** sustainable **Smart Textile Materials** to address current and future energy needs. The novel materials include debondable adhesives, bio-polyurethane, and negative thermoresponsive materials, leading to advanced applications in shape morphing building envelopes, automotive interiors, and adaptive garments.

TexMaTer  	TexMaTer project aims to minimise the environmental impact of the textile and clothing industry through the search of **new sustainable fibres and novel bioformulations for textile finishing processes**. This will lead to reduced dependence on synthetic fibres, virgin cotton, and wood-based man-made cellulosic fibres, as well as the use of fossil-based chemical finishing formulations. Ultimately TexMaTer seeks to promote regional and innovative bioeconomies through regenerative and locally sustainable production of alternative bio-based fibres. It also focuses on implementing territorial solutions to **promote sustainability and circular practices within the fashion and home textiles industry**.
tExtended  	The project tExtended aims to introduce an innovative approach to the **cycling of discarded textiles with the development of a Blueprint**, a knowledge-based masterplan for the optimized cycling for different textile flows. The Blueprint will define the **implementation of a circular textile ecosystem** including reduction of waste, extended reuse of textile products and efficient material recycling of end-of-life textiles. We also develop wide range of **digital and technological solutions enabling the replicability of the tExtended solutions** in different European regions, especially business opportunities emerging from circular systems and innovations that are environmentally and socially sustainable.
Threading-CO_2  	Threading-CO_2 aims to scale-up and demonstrate its first-of-its-kind technology producing **high-quality commercially viable sustainable PET textile products from CO_2 waste streams at industrial scale (TRL7) using a circular manufacturing approach** and running on renewable energy sources. The overall outcome of the Threading-CO_2 project is a 70% GHG emissions reduction compared to existing PET manufacturing processes. In addition, Threading-CO_2 will enable the creation of a European value chain for sustainable PET textiles, from feedstock to final textile products in the clothing, automotive and sports/outdoor industries.
TRUSTEX  	TRUSTEX aims to revolutionize the EU textile industry by developing and **implementing Extended Producer Responsibility schemes that promote circular business models through eco-design principles, improved waste management systems, and digital traceability solutions**. The updated Waste Framework Directive mandates separate collection of textiles by 2025, with Extended Producer Responsibility schemes identified as the most efficient financing solution.

VERDEinMED	The VERDEinMED project, "PreVEnting and ReDucing the tEXtiles waste mountain in the MED area", is an initiative co-funded by the EU Interreg Euro-MED programme to promote a more sustainable future for the textile sector. The project, which brings together 10 partners and 15 associated entities, is based on the **promotion of the circular economy in the textile sector along its entire value chain**. Framed within the Innovative Sustainable Economy Mission of Interreg Euro-MED, the project will seek to reduce textile waste by applying innovative tools and raising awareness among different audiences in the Mediterranean.
Waste2BioComp	The Waste2BioComp project aims to demonstrate relevant **scale production of bio-based products and materials**, as alternatives to replace traditional materials with a high environmental footprint, using innovative manufacturing technologies in Textiles, Packaging and Footwear.
ZeroF	The ZeroF project funded by the EU and SERI, will develop **safe and sustainable coating alternatives to replace PFAS compounds** in food packaging and upholstery textile value chains.
EFFECTIVE	Project EFFECTIVE is a multi-company collaboration to produce more **sustainable bio-based fibers and plastics** for large consumer products by using renewable feedstocks and innovative technologies. Our goal is to **reshape entire product value chains** by designing new products for a better tomorrow. Because we care about the end-life of our products, EFFECTIVE embraces the **circular economy** to close the material cycle and make sure we maximize the value of every fiber and plastic we create.
Glaukos	Glaukos project aim was to develop **eco-designed fishing gear and clothing**, redesigning through a systemic aproach the entire value chain, all the way from renewable feedstock to textile prototype and ending with two **end-of-life (EOL) solutions**: biodegradation and bio-recycling.
GRETE	The GRETE project will improve the existing wood-to- textile value chains by developing breakthrough technologies that can open up the identified bottlenecks and enable increased production of man-made cellulose fibres in Europe.
HEREWEAR	HEREWEAR innovates with a holistic, systemic approach towards the creation of an EU market for locally-produced **circular textiles and clothing made from bio-based waste**. New material solutions will build on the latest **bio-based polyesters and cellulose** developments. Three **novel waste streams** (seaweed, manure, straw) will be

	developed for cellulosic textile fibres. Emerging **sustainable technologies for wet and melt spinning, for yarn and fabric making**, will be developed and piloted at semi-industrial scale. For **finishing, coating and colouring biobased agents will be evolved**.
IRISS	The concept of Safe-and-Sustainable-by-Design is the core of the IRISS project, which includes focusing early in the supply chain on providing products that are part of circular models while avoiding properties that may be harmful to human health or the environment. It integrates circularity, climate neutrality, functionality and safety of materials, products and processes throughout their life cycle. In close collaboration with industry, several roadmaps will be developed to implement research and innovation, but also to demonstrate needs that exist in the policy area. Focus is on the value chains for textiles, construction, electronics, energy, automotive, packaging and fragrance.
MY-FI	The MY-FI project contributes to further improve the EU textile industry by developing **mycelium-based fabrics**. Such innovative materials are fully **biobased, customizable, highly performing** and can be produced through **advanced manufacturing processes**. Mycelium fabrics have the potential to match the consumers' demands for **sustainable** and **functional** products, opening new designing opportunities for several market applications, resulting in **positive economic impact and environmental relief**. By valorising other industries' residues, MY-FI will contribute to implement a cross-sectoral approach to **Circular Economy**, enhancing the competitiveness of **local value chains**.
New Cotton Project	Over a three-year period, textile waste is collected and sorted, and regenerated into a new, man-made **cellulosic fiber** that looks and feels like cotton – a "new cotton" – using Infinited Fiber Company's textile fiber regeneration technology. The fibres will be used to create different types of fabrics for clothing that will be designed, manufactured and sold by global brand adidas and companies in the H&M Group. The project also aims to act as an inspiration and steppingstone for further, even bigger **circular initiatives** in the industry going forward.
S4Fashion	S4Fashion is empowering small medium-sized enterprises to introduce new sustainable and circular economy products, services, methods, tools and business models for the fashion industry. We aim to **identify and amplify the best and up to date practices for a greener fashion sector**. The project,

	throughout its three year life cycle, will produce new evidence-based knowledge on sustainability and circular economy for the fashion industry and share its findings with the whole ecosystem of the European fashion community.
SCIRT SCIRT.	The SCIRT project aims to demonstrate a **complete textile-to-textile recycling system for discarded clothing** - **or post-consumer textiles -** involving stakeholders throughout the value chain and focusing on the recycling of natural fibres, synthetic fibres and fibre blends.
T-REX t-rex	T-REX Project brought together 13 major players from across the entire value chain to create a harmonised EU blueprint and business opportunities for **closed loop sorting, and recycling of household textile waste**. Transforming end-of-use textiles, from waste, into a desired feedstock, and a commodity for new business models that can be adopted at scale.
TRICK TRICK	TRICK will provide affordable and standardised enabler to **move SMEs closer to circular economy**. The project supports the adoption, tracing and demonstration of sustainable approaches by means of an **innovative and circular product information management system**, based on a data collection platform secured by Blockchain and integrated with an open marketplace for the matched services.
CircThread Circ Thread	The objective is to **interconnect the information along the life of a product**, from concept to retirement, so that it can be easily accessed and shared. This will allow you and others to make decisions at all stages to shift to a circular economy. To make this information available, we will develop, test, and share our **open-source software platform** within the next four years. It will enable **digital exchanges of data** across the extended product life cycle.
CISUFLO CISUFLO	CISUFLO overall goal is to **minimize the environmental impact of the EU flooring sector**, by setting up a systemic framework for circular and sustainable floor coverings taking into account both **technical feasibility and socio-economic factors**.
SORT4CIRC	The EU-funded SORT4CIRC project will develop a high-tech, **traceable system for sorting textiles** using AI, multi-sensors, and digital product passports. It will make it possible for **recyclers** to turn non-rewearable textiles into valuable raw materials, while helping sorters unlock new business opportunities. By connecting designers, sorters, recyclers, and tech experts, SORT4CIRC is paving the way

	for a smarter system that keeps textiles in the loop and drives the shift to a **circular economy**.
AUTOLOOP	The EU-funded AUTOLOOP project will accelerate the transformation of the European clothing and textile industry by developing state-of-the-art, scalable **technologies for intelligent automated sorting and advanced chemical recycling of non-rewearable textiles** (NRT). Additionally, it will develop science-based additive tracing technologies and solutions to **digitalise the textile value chain**. Finally, chemical recycling technologies are pollutant-resistant, can extract pollutants from NRT feedstock, and enable safe and clean fibre product streams.
STREP	STREP ambition is to empower the European textile (recycling) industry with a solution for **sustainable processing of textile waste** by developing and rolling out of a novel and systemic **waste sorting solution** based on cost-efficient sensor and automation technology, self-learning AI, as well as a novel solution for textile disintegration and mechanical recycling. Furthermore, STREP develops **chemical recycling solutions**, to facilitate the production of a 100% closed loop recycled yarn based exclusively on post-consumer textile waste, creating a perfect balance between sustainability, cost, and quality. The overall ambition is enhancing European industrial sustainability, competitiveness, and resource independence through producing more sustainable products, while increasing consumer benefits.

DPP related projects

CIRPASS	Funded by the European Commission under the Digital Europe Programme, CIRPASS is a collaborative initiative to prepare the ground for the gradual **piloting and deployment of a standards-based Digital Product Passport (DPP)** aligned with the requirements of the Proposal for Ecodesign for Sustainable Product Regulations (ESPR), with an initial focus on the electronics, batteries, and textile sectors.
CIRPASS-2	CIRPASS-2 will **demonstrate functioning Digital Product Passports** in real settings through circular pilot deployments and use cases **in textiles, electrical and electronic equipment, tyres and construction value chains**.
DigInTraCE	Process industries are working to find solutions to achieve low emissions and promote **circularity** through waste reduction and secondary raw materials use. The DigInTraCE project will use innovative tracking, sensing and sorting techniques to develop a transparent and interoperable decentralised traceability platform focusing on the pulp and paper and chemicals sectors. The project will also develop dynamically updated **DPP-schemes** supporting certification, quality validation, AI-based decision-making mechanisms for process and life cycle optimisation, and up-cycling, reuse and upgrade technologies for improved secondary raw materials use. DigInTraCE will concentrate on composite wood and furniture, wood and pulp and paper, plastic parts from ICT equipment and the automotive market and polymers and textiles.
CE-RISE	The Circular Economy Resource Information System (CE-RISE) project aims to create an information system and integrate digital product passports, that will share detailed information on electronic products. CE-RISE will develop the system to provide stakeholders, including consumers, with a better understanding of the green credentials of electronic products and how to preserve important raw materials through the reuse, repair and recycling of these items.
Trace4Value	Through our groundbreaking Trace4Value initiative, we are piloting the entire technical architecture and infrastructure of the Digital Product Passport system. Over 3000 pilot products from leading brands Kappahl and Marimekko have been equipped with ID carriers storing crucial supply chain and transparency data.

Other

HackThatFashion 	HackThatFashion targets fashion designers and small and medium fashion companies in Europe. Through **learning and applying design thinking methods and tools**, fashion designers will be supported to **practice and build concrete results towards technology and sustainability integration and adoption**. HTF is a cross-sectoral platform where the fashion idustry will connect with the technology and innovation industry at carefully curated hackathons and matchmaking sessions.