



Defining SSbD textile through science

Our innovation journey with TexMaTer in Horizon Europe

Horizon Europe - Opportunities for the textile sector

16 June 2026

Speaker: Ing. Ahmad Aldaghi

LCA Specialist, Project HUB-360

About TexMaTer



Retrieving novel TEXTile solutions from MArine and TERrestrial biomass

Project: 101135502 - TexMaTer - HORIZON-CL6-2023-CIRCBIO-02



Project Duration

48 MONTHS

1st September 2024

31st August 2028



Budget

4 873 448.93 EUR



Consortium

16 PARTNERS

13 Beneficiaries

3 Associated partners

**Visit the
website:**



Consortium



Beneficiaries

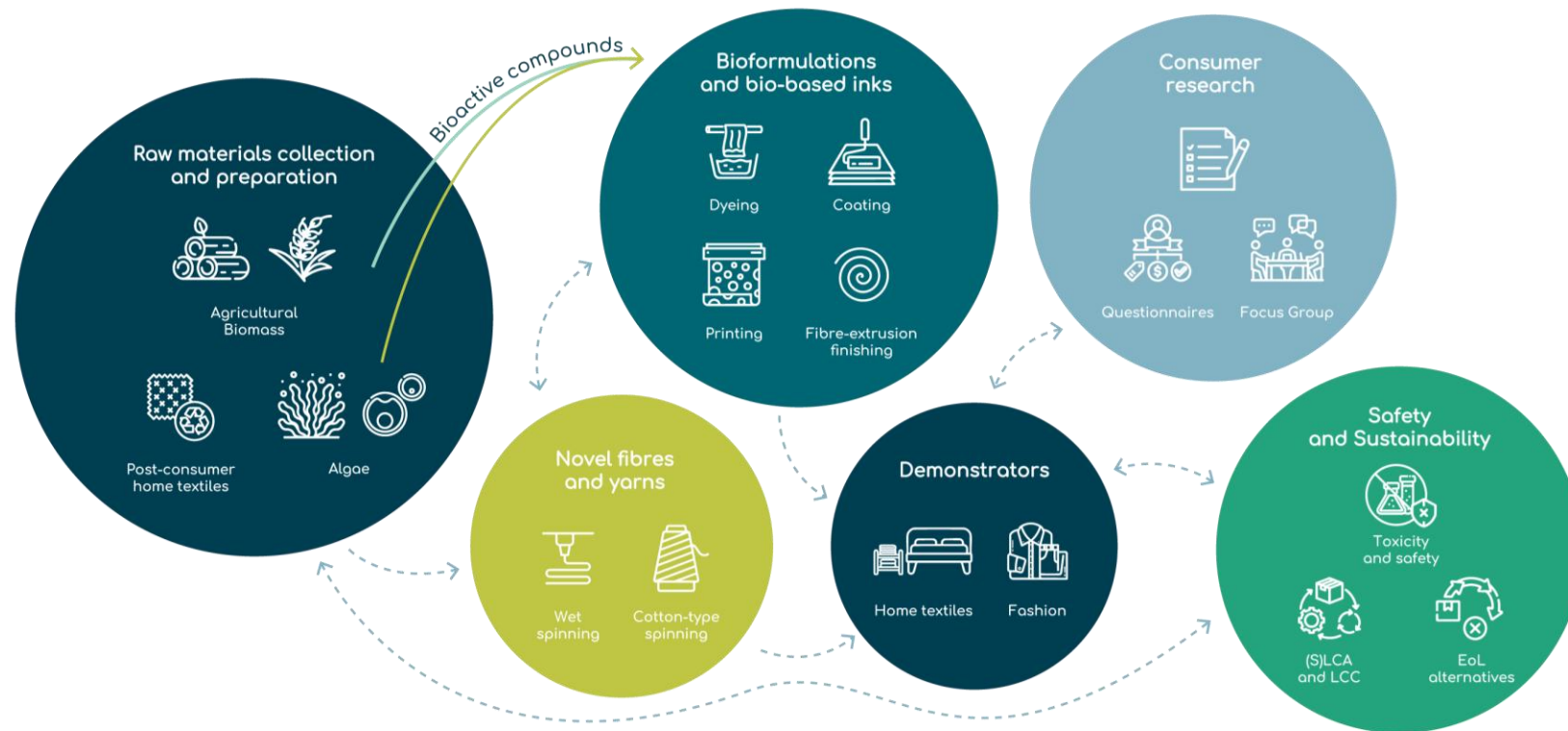


Associated Partners



Overview

TexMaTer will develop **novel cellulosic fibres** and **bioformulations for textiles functionalisation using biomass sources** (agricultural residues, and micro-and macroalgal biomass) and **post-consumer cellulosic textiles**.



Our role

Leading Work Package 7:

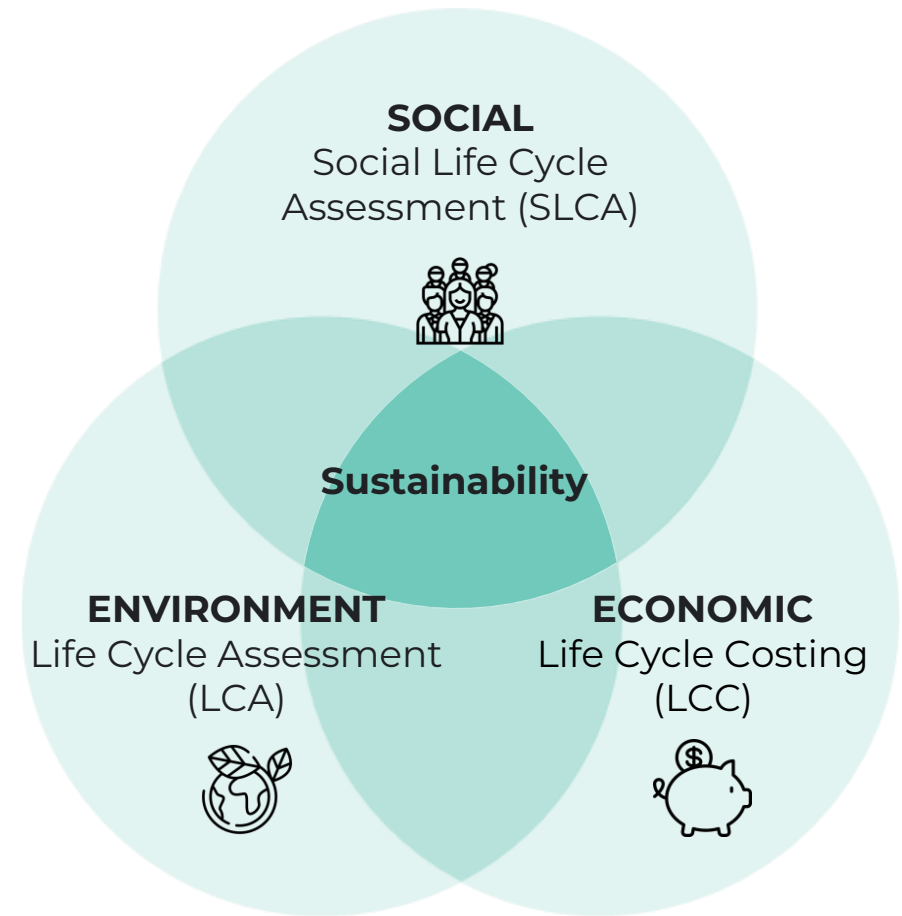
Safety and sustainability concerns and EoL alternatives

→ To conduct a **comprehensive evaluation of the safety and sustainability** of the **TexMaTer** solutions.



TexMaTer Circular Systems Sustainability Assessment

Life Cycle Thinking is a **holistic methodological approach** to define the **sustainability of a product/service** that requires moving beyond the traditional focus on the production phase and related manufacturing processes with the intent to **include all impacts generated throughout the entire life cycle**.



Safe and sustainability by design decision support system (SSbD DSS)

In order to simultaneously address **safety, environmental, social, economic, and functional dimensions** through SSbD, we utilize following methodology to operationalise SSbD.



Quantitative
methodological
approach to SSbD



**Data
Management
System**
harmonised and
FAIR data



**Decision support
Digital system** (DSS)
based on
multicriteria decision
analysis and **AI**



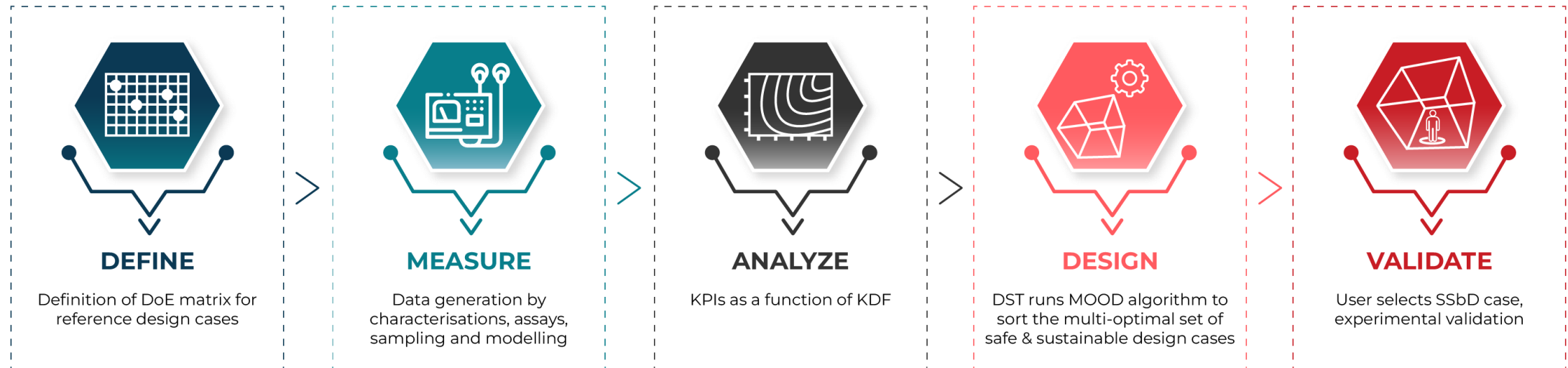
Quantified solutions
reflecting
**stakeholders
requirements**



Human centric
decision making

Step by Step Multi-optimisation through SSbD-DSS in TexMaTer Project

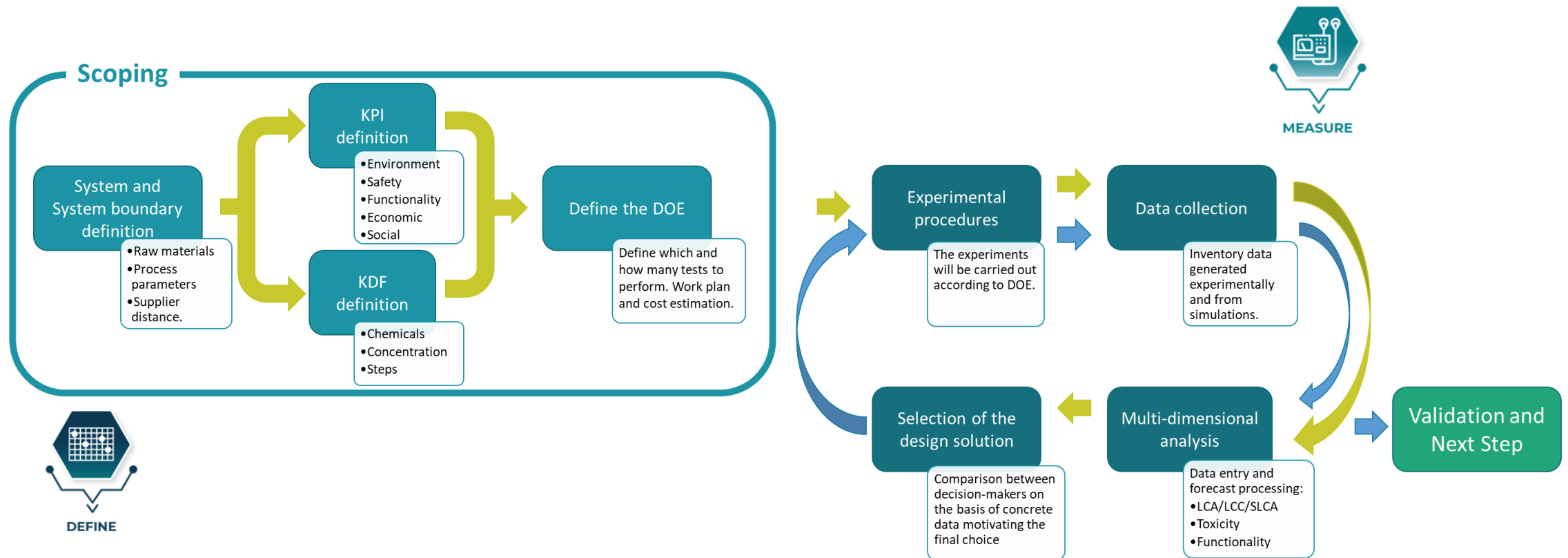
- In compliance with **JRC framework**
- inspired by **ISO** standards
- following **D.M.A.D.V.** six sigma methodology applied in **industry**



To reduce time-to-market (**T2M**), **costs**, use of **resources** and to reduce implementation **risks**.

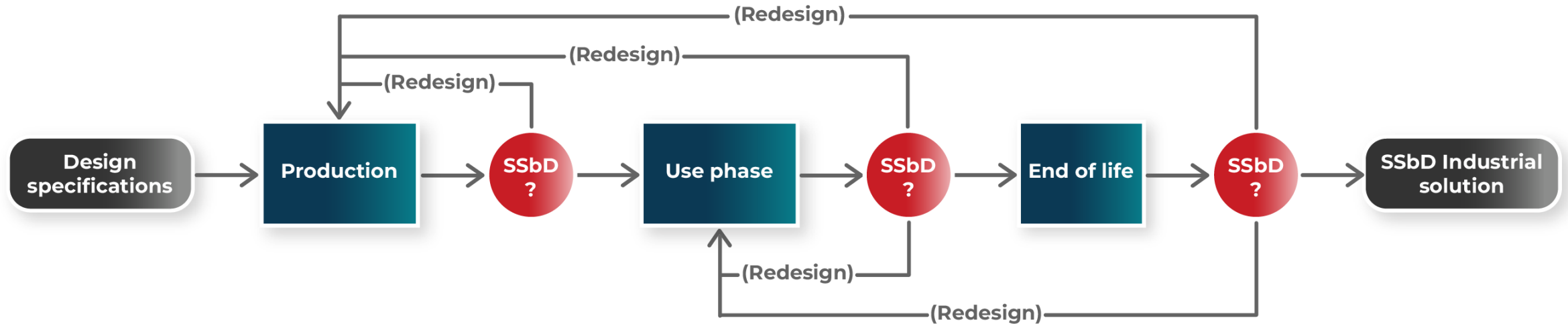
Step by Step Multi-optimisation through SSbD-DSS in TexMaTer Project

The procedure must be carried out collaboratively with all partners responsible for technical processes and characterization activities to ensure that the product design meets the SSbD requirements.



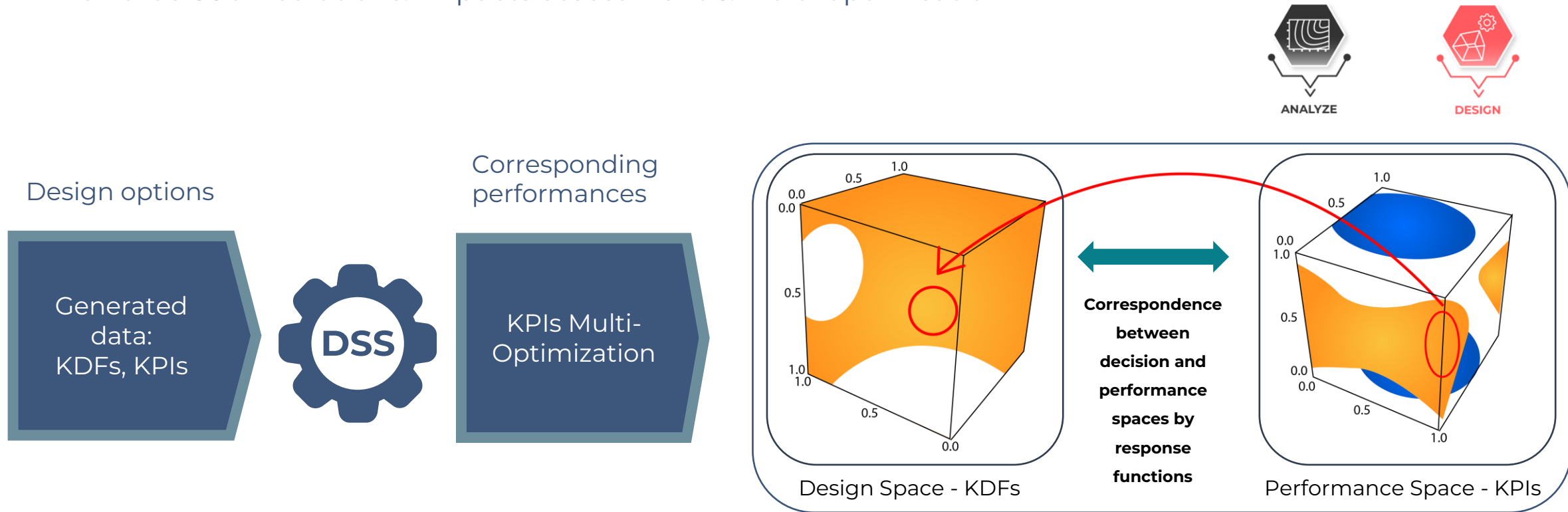
Step by Step Multi-optimisation through SSbD-DSS in TexMaTer Project

Will be applied at different levels and sequentially up to and including the entire product life cycle according to a stage gate approach.



Step by Step Multi-optimisation through SSbD-DSS in TexMaTer Project

Towards SSbD solutions: Impacts assessment & Multi-optimisation



SSbD in Textile and Clothing Industry

Towards SSbD solutions: multi-optimization

MultiOptimal360[®] is a Computation and Decision Support System (**DSS**) which enables:

- assessing the dependence of KPIs on KDFs
- the implementation of the Multi-Objective Optimization Design (**MOOD**) artificial intelligence (**AI**) algorithm
- **obtaining the set of (multi-optimal) SSbD cases**, simultaneously complying with safety, sustainability and functional KPIs requirements
- **Supporting humancentric decision** making

MultiOptimal[®]
360



SSbD in Textile and Clothing Industry

Towards SSbD solutions: multi-optimization



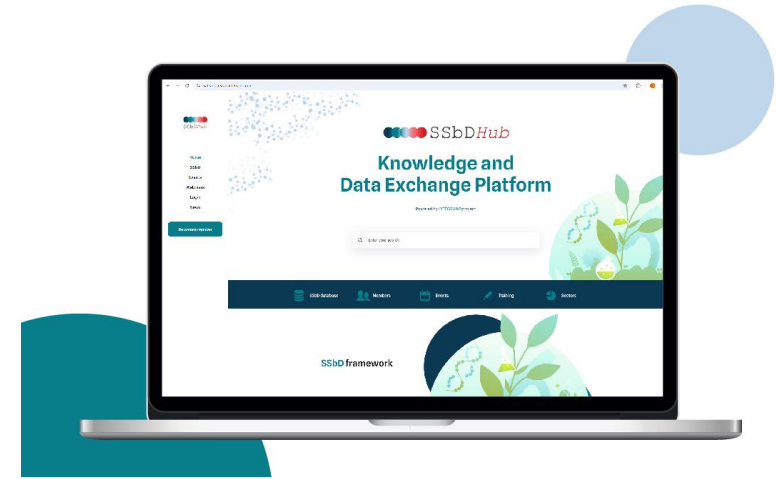
SSbD*Hub*

powered by
INTEGRANO

A Knowledge and Data
Exchange **Platform**
to bring **SSbD framework**
into action.

A platform to **engage** people interested in SSbD
from different **sectors**:

- Universities and research bodies
- Companies and industries
- Organizations and institutions



www.safeandsustainablebydesign.eu

Our **services** and **software** for the **textile**

About us



For over 20 years, we have been working with companies to **integrate sustainable development** into their production processes with innovative, customized, science-based solutions.

We create **sustainable business strategies** by incorporating technological solutions and strengthening competitive positioning.

We work in a wide range of key industrial sectors.



+20



Years of experience
in consulting on
sustainability and
innovation

+110



Projects
focused on sustainability
and innovation
(including EU projects)

+840



Partners
and collaborators
in our international
network

Our expertise



Expertise in Sustainability Assessment



Digital Data Management System



SSbD Methodology and Tools



End-to-End EU Project Management



**Communication, Dissemination
and Exploitation Expertise**



Multisector & Cross-Fertilisation



**Social Sciences and Humanities
(SSH) integration**



**Artificial Intelligence (AI) and Machine
Learning (ML)**



Decision Support System



Big Data analysis

Current main Textile-related EU projects

“ Throughout our journey, we have actively participated in numerous **European projects** centered on **textiles**, collaborating with key stakeholders to drive meaningful change in the industry.

These initiatives have allowed us to develop a comprehensive toolkit of **best practices and strategies** tailored specifically for textile companies.

Our partnerships with industry leaders and SMEs enable us to stay at the forefront of sustainable advancements and regulatory developments.

”



focused on the development of Safe and Sustainable by Design (SSbD) materials for diverse applications across multiple sectors, including the textile industry.



dedicated to reducing the environmental impact of the textile and clothing industry by exploring new sustainable fibers and innovative bioformulations for textile finishing processes.



focused on the sustainable treatment and purification of wastewater for reuse in dye production.

ESPR Preparatory Study on Textile Products

In 2025 , we launched a collaboration with the European Commission's Joint Research Centre **(JRC)** for the drafting of a **Preparatory Study on Textile Products**.

This preparatory study aims to provide a basis on which the Commission can **consider**:

- the introduction of **ecodesign requirements**
- **green public** procurement criteria
- revised **EU Ecolabel** criteria for textile products.

More info here:

[Product Bureau | Circular Economy: Environmental and Waste Management](#)



Digitalisation of LCA, LCC & S-LCA in the textile sector

The digital platform for sustainable decision-making in the textile industry



Scan me



LCS1 - Raw materials

Material	Mass (kg)	Countries	%	€
M4 - Cotton	1.5	ES - Spain	80	2.3
		IN- India	20	1.7

+ Add material Save

LCS2 - Process configuration

Country	% of process	Lines
ES - Spain	100	Ring spinning 1

+ Add line Confirm line

Results

Water scarcity	4.5 m ³
Global warming	5 kg CO ₂ eq.
Abiotic depletion	15 MJ
Cost	6.5 €

Digitalisation of LCA, LCC & S-LCA in the textile sector



Scan me



MultiEcoTex™ is a unique **digital platform** designed to:

- **map flows at local and global scale**
- **quantify**
- **analyse**
- **design**

the entire **apparel textile value chain** through an **eco-design** approach.

Overall, By integrating **environmental, economic, and societal dimensions** into one comprehensive model, the platform helps companies making smarter, data-driven decisions aligned with **ESG priorities, circularity goals**, and **regulations** such as the **European Ecodesign for Sustainable Products Regulation (ESPR)**.

Our digital platforms

We develop customized IT tools to implement a quantitative (data-driven) approach to **support the clients' sustainability strategy**.

All tools are developed by including client data and processes, **facilitating development, evaluation and monitoring**, implementing a Performance and Sustainability by Design approach.



EcoOptimal
CFP-LCA

EcoOptimal
LCC

MultiOptimal[®]
360

ESGeasy[®]

DPPeasy[®]

MultiEcoTex[™]



Thanks for your attention!

 info@projecthub360.com

 <https://www.projecthub360.com/>

 [Project HUB-360](#)

 +39 011.207.0981

 Metropolitan city of Turin
10051 Avigliana - ITALY
Corso Laghi, 22