

Call: HORIZON-WIDERA-2021-ACCESS-03/Twinning

Project SustDesignTex (GA No. 101079009), title: „Sustainable Industrial Design of Textile Structures for Composites” funded by the European Union

## Deliverable Report

### SUSTainable industrial DESIGN of TEXtile structures for composites (SustDesignTex)

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Deliverable Title	D5.1: Five publications of scientific conference reports
Deliverable Lead:	<i>Lodz University of Technology</i>
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Author(s):	<i>Tsegaye Lemmi &amp; Marcin Barburski</i>
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<b>Abstract:</b>	<i>This deliverable report summarizes the participation of project partners in national and international conferences from beginning of the SustDesignTex project to the reporting date of this deliverable. Also, forth planned conference participations are included to the report. The report also includes five selected conference paper and/or extended abstract publications details. Attending and presenting at scientific and technical conferences has been a key activity for disseminating project results, promoting collaboration, and engaging with the wider research and innovation community.</i>

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## **1. Introduction**

This deliverable provides a comprehensive overview of the conference participation activities carried out by the SustDesignTex consortium during the full 34-month duration of the project and the planned conference participations after this report. Networking, dissemination and communication of results to the wider scientific, industrial, and policy-making communities are essential components of the SustDesignTex project’s impact strategy.

Conferences and scientific events offered an important platform to present research outcomes, validate approaches through peer engagement, and position the project within the broader context of ongoing work in the field. These events also served as valuable opportunities to engage with stakeholders, explore synergies with other EU projects, and stay informed about emerging trends and innovations relevant to the project objectives.

Throughout the project period, members of the consortium actively participated in national and international conferences, workshops, and forums, both as attendees and contributors. This included oral presentations, poster sessions, invited talks, and panel contributions. Several events were selected strategically based on their relevance to the SustDesignTex project's key domains, target audience, and visibility potential. This report provides a detailed list of conferences attended and contributions made, and the conference papers published.

## **2. Objectives of Conference Participation**

The objectives of attending conferences during the project period were to:

- Disseminate key research results and technical developments.
- Increase visibility and impact of the project within the scientific and industrial communities.
- Foster networking and collaboration with stakeholders, researchers, and potential end-users.
- Collect feedback and insights relevant to the project scope and future research directions.
- Extend networking opportunities beyond the consortium

## **3. Summary of Conference Participation**

Over the course of the project, SustDesignTex consortium partners participated in various international and national conferences. Participation included oral presentations, poster sessions, and panel discussions. The List of conference participations are listed in the table below.

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### 3.1 Overview of SustDesignTex Consortium Partner’s All Conference Participations

No.	PARTICIPATION AT CONFERENCES						
	NAME OF THE CONFERENCE	ORGANIZER	DATE	COUNTRY	PARTNERS INVOLVED	TYPE OF PARTICIPATION	TITLE OF PRESENTATION
1	The 24th International Conference on Composite Materials (ICCM24)	University of Delaware Center for Composite Materials (CCM)	04 – 08 August 2025	Baltimore, USA	TUL, UNIZAR, HB, & ITA	Poster	Evaluating Wool Fiber's Viability as a Sustainable Reinforcement in Composite Applications
2	The 24th International Conference on Composite Materials (ICCM24)	University of Delaware Center for Composite Materials (CCM)	04 – 08 August 2025	Baltimore, USA	TUL	Oral presentation	3D-printed core reinforced with unidirectional tailored fiber placement and braided structures for use in custom-made composite knee orthoses
3	34th INGEGRAP International Conference	INGEGRAF	25 – 27 June 2025	Sevilla, Spain	UNIZAR & TUL	Poster	Fabrication of an Additive Manufactured Mould for the Production of a Drone Engine Cover Using the Infusion Composites Process.
4	34th INGEGRAP International Conference	INGEGRAF	25 – 27 June 2025	Sevilla, Spain	UNIZAR & TUL	Oral presentation	A more sustainable scooter approach using natural composite materials
5	AUTEX 2025 World Conference	Institute of textile machinery and high-performance material technology, Technical University of Dresden	11 – 13 June 2025	Dresden, Germany	TUL	Oral presentation	Wool fibers for the composite reinforcements and their properties
6	The Fiber Society's Spring 2025 Conference,	Hong Kong Polytechnic University	21–23 May 2025	Hong Kong, China	TUL & HB	Oral presentation	Mechanical Property Analysis of Wool Fiber Reinforced Composite Materials
7	The 12th International Young Researchers' Conference on "Industrial Engineering 2025"	Kaunas University of Technology	12 May 2025	Kaunas, Lithuania	TUL	Oral presentation	Analysis of the effects of composite preform preparation methods on the mechanical properties of the composite materials

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8	13th International Conference on Cotton, Textile, and Apparel Value Chain in Africa (CTA-2025),	Ethiopian Institute of Textile and Fashion Technology, Bahir Dar University	02-03 May 2025	Bahir Dar, Ethiopia	TUL	Oral presentation	Development of Tailored Fiber Placement (TFP) Textile Structures for Drone Frame Composite Reinforcement
9	4th Sustainable Textile and Fashion Congress (STFC)	iCongress	28 – 30 April 2025	Manchester, United Kingdom	TUL, ITA, & UNIZAR	Oral presentation	Sustainable Development Aspects and Challenges in the Production of Textile Reinforced Composites
10	4th Sustainable Textile and Fashion Congress (STFC)	iCongress	28 – 30 April 2025	Manchester, United Kingdom	TUL & UNIZAR	Oral presentation	Life Cycle Assessment of Natural Fiber-Reinforced Composite Materials
11	InnovaTex2025 Conference	Lodz University of Technology	22 -24 January 2025	Lodz, Poland	UNIZAR & TUL	Oral presentation	A methodological approach to the use of natural fiber reinforcements in sporting goods
12	InnovaTex2025 Conference	Lodz University of Technology	22 -24 January 2025	Lodz, Poland	ITA	Oral presentation	Manufacturing Routes for recycled Carbon Fibres to close the Loop
13	InnovaTex2025 Conference	Lodz University of Technology	22 -24 January 2025	Lodz, Poland	WAD	Oral presentation	Composites Technology in Aerospace
14	InnovaTex2025 Conference	Lodz University of Technology	22 -24 January 2025	Lodz, Poland	TUL	Oral presentation	Scientific results of the SustDesignTex project.
15	XV Scientific Conference on Measurement and Assessment of Social and Economic Phenomena, MASEP2024 Conference	Lodz University and Lodz University of Technology	27 – 29 November 2024	Lodz, Poland	ITA	Oral presentation	Research Management and Administration (RMA) at ITA and RWTH
16	The 24th International Conference Strutex 2024	Technical University of Liberec	02 – 04 November 2024	Liberec, Czech Republic	TUL	Oral presentation	Properties of Wool Fibers Reinforced Composites
17	ITC&DC – 11 <sup>th</sup> International Textile, Clothing & Design Conference	University of Zagreb	06 – 09 October 2024	Dubrovnik, Croatia	TUL & ITA	Oral presentation	Impact Properties of Natural Fiber-Reinforced
18	TexComp-15 Conference	Composite Materials Group (CMG)	11 – 13 September 2024	Leuven, Belgium	TUL & HB	Oral presentation	Fire-Resistant Natural Fiber Reinforced Composites
19	TexComp-15 Conference	Composite Materials Group (CMG)	11 – 13 September 2024	Leuven, Belgium	UNIZAR & TUL	Oral presentation	Towards mores sustainable sport goods: The case of paddle rackets

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20	Autex 2024 World Conference	Faculty of Textile Engineering, Technical University of Liberec	17 – 19 June 2024	Liberec, Czech Republic	TUL & ITA	Oral presentation	Fire Retardancy and Mechanical Properties of Natural Fiber Reinforced Composite
21	12th JCM 2024 / 33rd INGEGRAP International Conference	INGEGRAF	12 – 14 June 2024	Valencia, Spain	UNIZAR & TUL	Oral presentation	Evaluation of a Paddle Tennis Racket Performance Made of Sustainable Materials
22	The 10th Annual World Congress of Advanced Materials	BIT Congress	20 – 22 May 2024	Osaka, Japan	TUL & HB	Oral presentation	Design and Implementation of a Fire-Retardant Composite Dedicated to the Aviation Industry, Taking into Account the Assumptions of Sustainable Development
23	3 <sup>rd</sup> Sustainable Textile and Fashion Congress (STFC)	iCongress	13 – 14 February 2024	Manchester, United Kingdom	TUL & HB	Oral presentation	Sustainable Industrial Design of Textile Structures for Composites.
24	Aachen - Dresden - Denkkendorf International Textile Conference	The institute for Textile Machinery and High-Performance Material Technology in Dresden	30 Nov. – 01 Dec. 2023	Dresden, Germany	ITA, TUL, & HB	Oral presentation	A sustainable Concept for multifunctional fire-fighting Systems
25	INNOVATEX 2023	Lodz University of Technology	22 – 24 Nov. 2023	Lodz, Poland	TUL & UNIZAR	Oral presentation	Experimental determination of interlaminar tensile strength for epoxy composites reinforced with different typologies of flax fiber reinforcements in l-angle specimens
26	INNOVATEX 2023	Lodz University of Technology	22 – 24 Nov. 2023	Lodz, Poland	TUL & UNIZAR	Oral presentation	Virtual modelling and its verification of composites containing technical embroidery made of flax fibers as reinforcement
27	32nd Edition of the INGEGRAP International Congress	INGEGRAF	21 – 23 June 2023	Cadiz, Spain	UNIZAR & TUL	Oral presentation	Bicycle handlebar design with high damping factor using natural composites
28	LightCon 2023	International Convention for Lightweight Solutions	13 – 14 June 2023	Hannover, Germany	ITA	Poster	A sustainable Design of a Composite Parts A holistic Approach
29	The 23 <sup>rd</sup> International Conference Strutex 2024	Technical University of Liberec	30 November – 02 December 2022	Liberec, Czech Republic	TUL	Poster	Sustainable Industrial Design of Textile Structures for Composites
30	ITC&DC – 11 <sup>th</sup> International Textile, Clothing & Design Conference	University of Zagreb	02 – 05 October 2022	Dubrovnik, Croatia	TUL	Poster	Sustainable Industrial Design of Textile Structures for Composites

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### 3.2 Conference Paper Publications

This section lists the five selected conference paper or extended abstract publications published from the above-listed conference participations.

No.	Title	Authors	Conference	Date	Proceedings Doi/Link
1	3D-printed core reinforced with unidirectional tailored fiber placement and braided structures for use in custom-made composite knee orthoses	Marcin Barburski, Jakub Szary, David Ranz	ICCM24	04 – 08 August 2025	<a href="https://iccm24.com/img/ICCM24_Proceedings_072225_.pdf">https://iccm24.com/img/ICCM24_Proceedings_072225_.pdf</a> : page 4315 - 4322
2	A methodological approach to the use of natural fiber reinforcements in sporting goods	David Ranz, Ramon Miralbes, Javier Abad, Carmelo Pina, Jesús Cuartero, Marcin Barburski	InnovaTex 2025	28 – 30 April 2025	<a href="https://doi.org/10.34658/9788367934596">https://doi.org/10.34658/9788367934596</a> :page 89 - 122
3	Properties of wool fibers reinforced composites	Marcin Barburski, Tsegaye Lemmi, Agata Poniecka	The 24th International Conference Strutex 2024	02 – 04 November 2024	<a href="https://doi.org/10.15240/tul/008/2025-1-006">https://doi.org/10.15240/tul/008/2025-1-006</a>
4	Impact Properties of Natural Fiber-Reinforced	Marcin Barburski, Tsegaye Lemmi, Agata Poniecka & Rebecca Emmerich	ITC&DC – 11 <sup>th</sup> International Textile, Clothing & Design Conference	06 – 09 October 2024	Book of proceedings of the International Textile Clothing & Design Conference. ISSN 1847-7275; page 11-16
5	Fire Retardancy and Mechanical Properties of Natural Fiber Reinforced Composite	Tsegaye Lemmi, Marcin Barburski, Agata Poniecka & Rebecca Emmerich	Autex 2024 World Conference	17 – 19 June 2024	<a href="https://autex2024.tul.cz/programme-and-abstracts/abstracts">https://autex2024.tul.cz/programme-and-abstracts/abstracts</a>

### 4. Conclusion

Conference participation has been a vital dissemination and networking tool throughout the project realization period. The consortium partners remain committed to continuing dissemination activities beyond the project’s lifecycle by engaging in future conferences, workshops, and scientific publications.

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