



7th Newsletter

January, 2026

Follow us on:
@Susaan



Coordinator

Marta Mateo García

CENTRO TECNOLÓGICO LUREDERRA

contact@susaan-project.com



SUSAAN
SUSTainable Antimicrobial
and Antiviral Nanocoating



**Funded by
the European Union**

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or HADEA. Neither the European Union nor the granting authority can be held responsible for them. Horizon Europe Programme for Research and Innovation under the Grant Agreement N° 101057988.

SUSAAN Project: A Message from the Coordinator



As the SUSAAN project approaches its conclusion, the coordination team at **Centro Tecnológico Lurederra** looks back on a journey marked by ambition, collaboration, and innovation. Over 42 months, leading a large and multidisciplinary consortium has been both a demanding and deeply rewarding experience, driven by a shared scientific and technical vision.

The project achieved significant advances in the development of inorganic, biobased, and hybrid nanocoatings, supported by advanced characterization and performance assessment. Particular emphasis was placed on bridging the gap between research and application through coordinated laboratory work, pilot scale validation, and industrial testing, ensuring material performance, robustness, and realistic potential for scale up. SUSAAN's success is the result of strong coordination, effective collaboration, and the dedication of all partners.



We extend our sincere thanks to our networks, colleagues, EU sister projects, and stakeholders for their continued support. We hope the outcomes of SUSAAN will contribute to more efficient, sustainable solutions across the metallic, plastic, and textile sectors, and beyond.

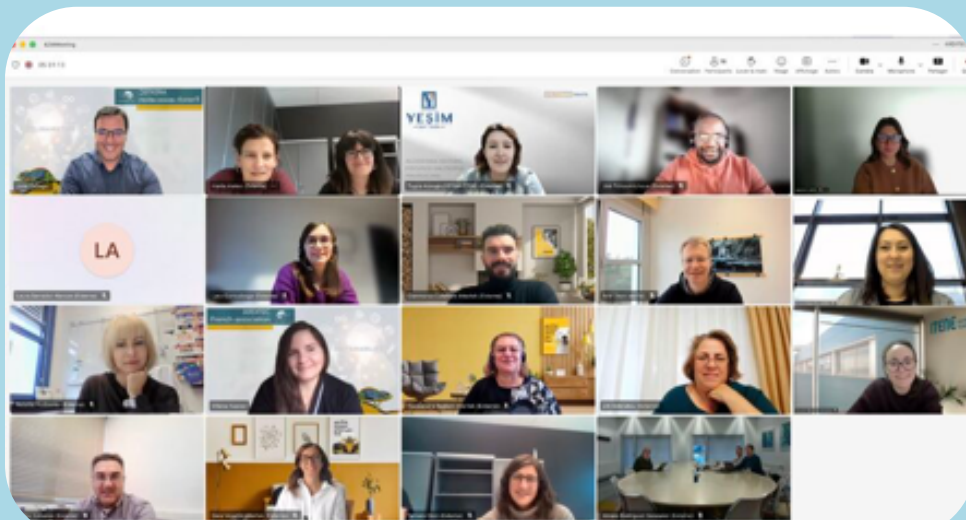


Funded by
the European Union

Marking the completion of SUSAAN Project



Welcome to the seventh and final issue of the SUSAAN Newsletter. In this edition, we reflect on the project's key achievements, recent events, and scientific milestones that have shaped this phase dedicated to developing safe and sustainable antimicrobial nanocoatings.



The consortium announced the successful completion of all project objectives, with every milestone and deliverable achieved on schedule by month 42. The coordinator highlighted not only the high level of scientific and technical achievement, but also the strong commitment, trust, and seamless collaboration that characterised the consortium throughout the project's duration.

All SUSAAN partners convened online for a dynamic exchange focused on the project's latest achievements and strategic preparations for its final phase. This meeting also served to align partners ahead of the final review meeting with the Project Officer, scheduled for January 2026, where the integrated results and overall impact of the SUSAAN will be presented.



**Funded by
the European Union**

Showcasing SUSAAN results at European events in 2025



The SUSAAN project participated in the **1st SENTIATECH Congress**, the Spanish Technology Platform for Advanced Technologies for Pollutant Detection, Safety Prevention and Health Monitoring, held in Valencia on 21–22 October 2025. The event promoted by our partner ITENE Research Centre.



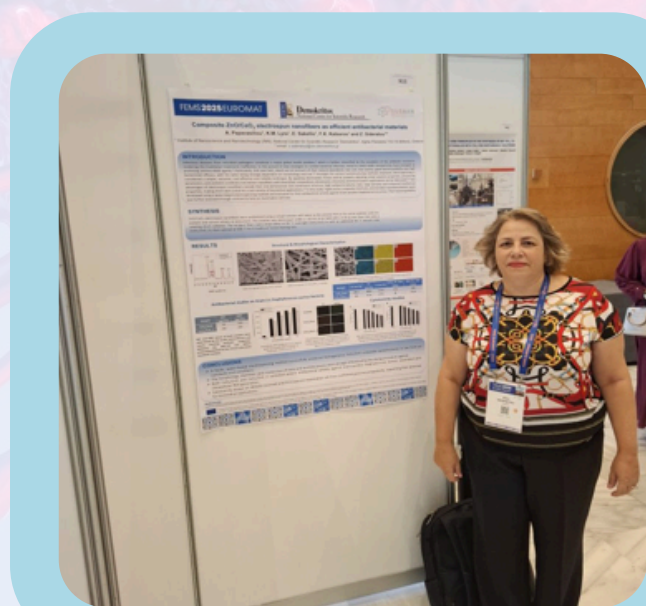
- Our partner Gianmarco Calafiore from Intertek delivered an oral presentation on how regulatory challenges under the Biocidal Products Regulation (BPR) are driving innovation in antimicrobial nanomaterials within the SUSAAN-EU project, with a focus on safety and compliance as drivers for safer antimicrobial and antiviral nanocoatings.
- Our partner Nataliia Hudzenko from the IVW Institute showcased the work on bio-based nanocapsules designed for antimicrobial surfaces. These nanocapsule systems aim to deliver effective antimicrobial protection while minimising environmental impact, aligning with the project's Safe and Sustainable by Design principles.



Funded by
the European Union

Showcasing SUSAAN results at European events in 2025

Zili Sideratou from Institute of Nanoscience & Nanotechnology, NCSR - Demokritos, presented the latest advances in the synthesis of novel antimicrobial materials developed within the SUSAAN-EU project at the Inaugural **International Colloquium on Chios Island**. The talk covered the rational design of antimicrobial nanomaterials, combining innovative synthesis approaches with early-stage risk assessment.

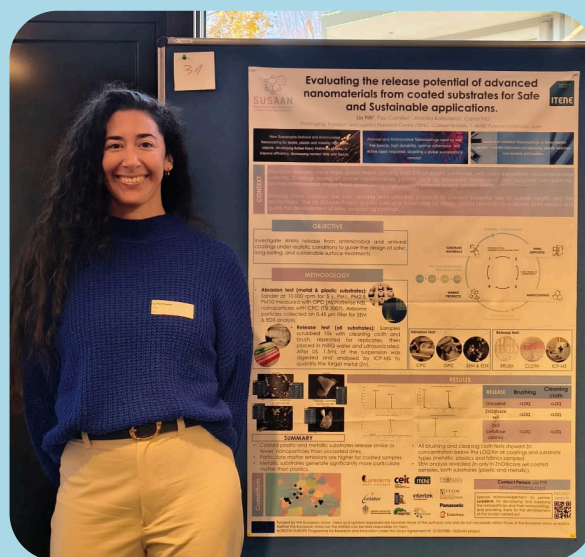
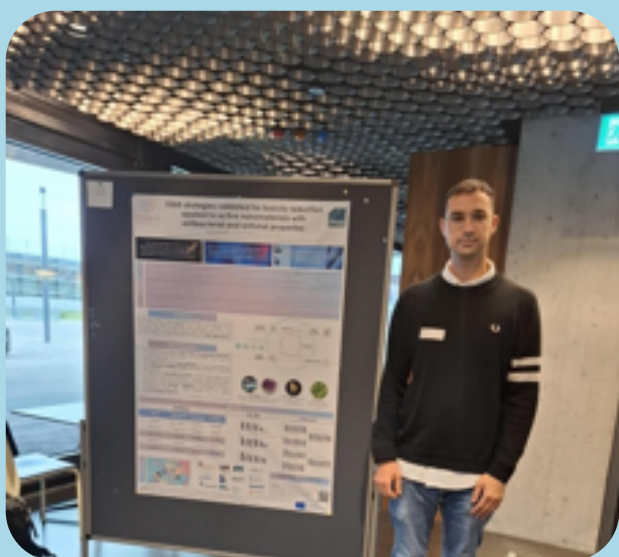


- Our colleague Zili Sideratou presented SUSAAN's latest results on ZnO–CeO₂ electrospun nanofibers at **FEMSEUROMAT 2025**, organised by FEMS in Granada, Spain. The study showed that these nanofibers are safe and effective antimicrobial agents, offering a promising balance between performance and safety.
- The contribution highlighted the potential of SSbD-designed nanomaterials for durable antimicrobial surface applications and further increased SUSAAN's visibility within the advanced materials and nanotechnology communities.



Showcasing SUSAAN results at European events in 2025

Last year, the **SSbD25 Conference** took place in Zurich, hosted by EMPA. The event brought together an international community of researchers, industry representatives, and policymakers to advance the implementation of Safe-and-Sustainable-by-Design (SSbD) principles. The conference provided a valuable platform for cross-sector collaboration, highlighting the challenges and opportunities in translating the SSbD concept into industrial and policy practice.



- ITENE team, represented by Msc. Javier Alcodori Ramos, Msc. Lía Pitti Pimienta took part in the SSbD25, presented results from the SUSAAN-EU project on ecotoxicity and on the application of Safe and Sustainable by Design (SSbD) methodologies, contributing to discussions with researchers, companies and policymakers.
- This participation helped position SUSAAN Project as a concrete case study on how to integrate sustainability and safety criteria from the early design stages of antimicrobial nanomaterials.

Training session organised by SUSAAN partners

Our SUSAAN partners from ALMAXTEX/Yeşim Group organised a training session to share industry experience and raise awareness regarding the development, production, application, and testing of antimicrobial/antiviral textile treatments.

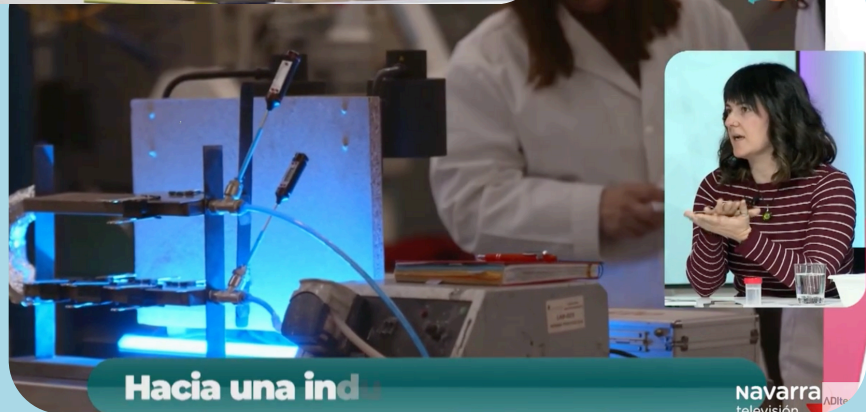


- The training took place in November, during which our partners from ALMAXTEX/Yeşim Group shared their industry expertise and raised awareness on the development, production, application, and testing of antimicrobial and antiviral textile coatings.
- The session brought together a total of 48 trainees from various high schools and universities, they are currently completing their internships across a wide range of departments such as design, R&D, dyehouse, finishing, printing, quality, apparel, information technology, test laboratory, social compliance, corporate communications, and marketing. The trainees had the opportunity to gain valuable insights into real-world industry practices.

Presenting SUSAAN Project and its Industrial Applications



In this video from the SINAI programme, our colleagues from LUREDERRA, Tamara Oroz and Leyre Hernández presented the latest advances of the SUSAAN project and showcased how its sustainable antimicrobial and antiviral nanocoatings can be applied to different industrial substrates, including textiles, plastics, and metals.



- Lurederra Technological Center, coordinator of the SUSAAN project and member of the SINAI, the Navarrese R&D&I System, bringing together public and private agents that work in a coordinated way to generate knowledge, transfer it to industry, and benefit society.



Funded by
the European Union

Highlighting SUSAAN Scientific Publications

Five peer-reviewed, open-access publications have already been released. Notably, one of them was distinguished as an Editor's Choice article in the journal *Nanomaterials*, underscoring the scientific quality and relevance of the consortium's research. Two additional manuscripts are currently under editorial review.

Open Access Article *Nanomaterials*

Engineering Mesoporous Silica Hosts for Ultrasmall ZnO Nanoparticles: A Dendritic Polymer-Assisted Strategy Towards Sustainable, Safe, and Effective Antibacterial Systems

by Aggeliki Papavasiliou ^{1,*}, Kyriaki Marina Lyra ¹, Elias Sakellis ^{1,2}, Albany Milena Lozano Násner ³, Jose Gallego ³, Fotios K. Katsaros ¹ and Zili Sideratou ^{1,*}

¹ Institute of Nanoscience and Nanotechnology, National Center for Scientific Research "Demokritos", 15310 Aghia Paraskevi, Greece
² Condensed Matter Physics Section, Physics Department, National and Kapodistrian University of Athens, Panepistimiopolis, Zografos, 15784 Athens, Greece
³ Association for Research and Development of Innovations and Technologies for the Protection of Environmental, Social, and Cultural Heritage, 48 Avenue Mont-Rabeau, 06200 Nice, France
 * Authors to whom correspondence should be addressed.

Nanomaterials **2025**, *15*(22), 1697; <https://doi.org/10.3390/nano15221697>

nature > scientific reports > articles > article

Article | Open access | Published: 03 May 2025

The role of unidirectional surface roughness on the regularity of LIPSS generated on stainless steel using femtosecond lasers

[Diego Gallego](#), [Isabel Ayerdi](#), [Aldara Pan](#), [Santiago M. Olazola](#) & [Ainara Rodriguez](#)

Scientific Reports **15**, Article number: 15483 (2025) | [Cite this article](#)

Open Access Article *Nanomaterials*

Chemically Modified Zein- and Poly(methyl vinyl ether-co-maleic anhydride)-Based Core-Shell Sub-Micro/Nanoparticles for Essential Oil Delivery: Antibacterial Activity, Cytotoxicity, and Life Cycle Assessment

by Liudmyla Gryshchuk ^{1,2,*}, Kyriaki Marina Lyra ³, Zili Sideratou ³, Fotios K. Katsaros ³, Sergiy Grishchuk ⁴, Nataliia Hudzenko ², Milena Násner ⁵, José Gallego ⁵ and Léo Staccioli ⁵

materials

Article

Bio-derived Cellulose Nanofibers for the Development under Environmentally Assessed Conditions of Cellulose/ZnO Nanohybrids with Enhanced Biocompatibility and Antimicrobial Properties

Kyriaki Marina Lyra ¹, Aggeliki Papavasiliou ¹, Caroline Piffet ², Lara Gumusboza ², Jean-Michel Thomassin ², Yana Marie ³, Alexandre Hoareau ³, Vinc. ³, do ⁴, Albany Milena Lozano Násner ⁵, Jose Gallego ⁵, Elias Sakellis ^{1,6}, Fotios K. Katsaros, Dimitris Tsiourvas ¹ and Zili Sideratou ^{1,*}

Open Access Editor's Choice Article *Nanomaterials*

Sustainable Antibacterial Chitin Nanofiber/ZnO Nanohybrid Materials: Ex Situ and In Situ Synthesis, Characterization and Evaluation

by Caroline Piffet ^{1,*}, Jean-Michel Thomassin ¹, Emilie Stierlin ¹, Job Tchoumtchoua ¹, Claudio Fernández ², Marta Mateo ², Leyre Hernández ², Kyriaki Marina Lyra ³, Aggeliki Papavasiliou ³, Elias Sakellis ^{3,4}, Fotios K. Katsaros ³, Zili Sideratou ³ and Dimitris Tsiourvas ^{3,*}

¹ Celabor, Research Center, Avenue du Parc 38, 4650 Chaineux, Belgium
² Lurederra, Área Industrial Perguita, C/A Nº 1, 31210 Los Arcos, Navarra, Spain
³ Institute of Nanoscience and Nanotechnology, National Center for Scientific Research "Demokritos", 15310 Aghia Paraskevi, Greece
⁴ Physics Department, Condensed Matter Physics Section, National and Kapodistrian University of Athens, Panepistimiopolis, Zografos, 15784 Athens, Greece
 * Authors to whom correspondence should be addressed.

nanomaterials
an Open Access Journal by MDPI

IMPACT FACTOR 4.3
Indexed in PubMed
CITATIONS 9.2

CERTIFICATE OF PUBLICATION

EDITOR'S CHOICE ARTICLES

The certificate of publication for the article titled:
Sustainable Antibacterial Chitin Nanofiber/ZnO Nanohybrid Materials: Ex Situ and In Situ Synthesis, Characterization and Evaluation

Authored by:
Caroline Piffet; Jean-Michel Thomassin; Emilie Stierlin; Job Tchoumtchoua; Claudio Fernández; Marta Mateo;
Leyre Hernández; Kyriaki Marina Lyra; Aggeliki Papavasiliou; Elias Sakellis; Fotios K. Katsaros; Zili Sideratou;
Dimitris Tsiourvas

Published in:
Nanomaterials **2025**, Volume 15, Issue 11, 809

MDPI
Basel, October 2025

S. Tsiourvas
Stefan Tsiourvas
Chief Executive Officer



Funded by
the European Union

SUSAAN Project: Closing and Continued Dissemination



Even though the SUSAAN project is coming to an end, dissemination of its results will continue through our online channels and partner activities. Stakeholders can keep following the progress of SUSAAN technologies and their potential uptake in industry.

Follow updates from consortium partners through their institutional websites and social media channels, where SUSAAN results and follow-up initiatives will continue to be featured.

Stay tuned to the SUSAAN website for public deliverables, publications, and news about post-project activities: <https://susaan-project.com>



Funded by
the European Union