

PRESS RELEASE

8 July 2024

ADVANCING ANTIMICROBIAL NANOCOATING TECHNOLOGIES
FIVE EU PROJECTS JOINING FORCES AT MATERIALS WEEK 2024, LIMASSOL

The **Advancing Antimicrobial Nanocoating Technologies Community Day** was held as a key event during the Materials Week 2024 conference in Cyprus, from 17 to 21 June 2024. It was organized by the Horizon Europe projects NOVA, RELIANCE, STOP, SUSAAAN and NANOBLOC, as a thriving networking opportunity, tailored to a diverse interdisciplinary audience while aiming to bridge communities, from scientists to industry leaders, in their collective fight against the transmission of disease through surfaces.

More than 30 people joined the event in person at the beachfront Crowne Plaza hotel in Limassol, eager to hear the latest insights from the community working on groundbreaking nanocoating innovations. The attendees were honored to have as opening keynote speaker Prof. Rui Reis, University of Minho in Braga and Guimarães, founding Director of the 3B's Research Group, part of the Research Institute on Biomaterials, Biodegradables and Biomimetics of the university. In his engaging talk on "Tissue engineering and antimicrobial strategies stemming from natural sources and biomimetic materials", he highlighted the significance of advanced research approaches to combating the growing peril of antimicrobial resistance.

The first morning session, moderated by SUSAAAN's Fotis Katsaros, Research Director at the National Center for Scientific Research "Demokritos", unraveled the complexities of the next generation of antimicrobial nanomaterials and showcased the main innovation materials appealed to in each of the sister projects through an overview of the inorganic and biobased nanocoatings towards industrial and medical applications.

A specialized session designed for materials scientists interested in microbiology, microbial resistance and antimicrobial mechanisms delved deep into the critical challenges posed by microbial resistance. The presentation of Prof. Izabela Radecka, University of Wolverhampton walked participants through the multifaceted interactions between pathogens and antimicrobial surfaces, examined the escalating threat of resistance and addressed the hurdles in testing antimicrobial efficacy. Microbiological knowledge was flawlessly transferred to the field of materials science, fostering interdisciplinary understanding and innovation.

The topic of harmonizing antimicrobial efficacy with environmental integrity and health took the floor in the afternoon. The conversation encompassed the intricate interplay between antimicrobial action and its implications for living organisms and ecosystems, starting with an overview of the Safe and Sustainability by Design concept in the EU and further highlighting life cycle and social impact assessments through the lens of SUSAAAN, RELIANCE, NOVA and NANOBLOC projects. Special emphasis was placed on the current regulatory frameworks that govern the deployment of these newly developed innovative materials and the challenges to commercialization stemming from the results heterogeneity from lab to



pilot to industrial scale. The discussion derived a central conclusion that most regulations do not yet account for the technology used to produce the novel nanomaterials.

“It is noteworthy that, for instance, nanoparticles with surface treatments designed to enhance antimicrobial activity and/or mitigate toxicological behavior are not adequately addressed by the regulations or relevant guidelines, despite the Biocidal Product Regulation containing a definition and several specific provisions for nanomaterials”

Giovanni Maria Condina, Regulatory Expert, Intertek

The absence of clear guidelines and comprehensive regulatory frameworks for complex antimicrobial nanomaterials could pose significant impediments to the go-to-market pathway of novel biocidal products, leading to potentially lowering the innovative approaches applied in the field.

The Community Day ended with industry experts outlining industrialization requirements, while underscoring the importance of a unified approach to validating antimicrobial performance under specific use conditions. During the coffee breaks, participants enjoyed an abundance of information on the works within each of the projects, presented in a session of 14 impressive posters.

One Mission

The sister projects present and involved in the organization of the Community Day at Materials Week 2024 Conference are committed to a common goal:

- **Synergy Creation:** to cultivate a collaborative ecosystem among projects, industries and scientific bodies working on antimicrobial coatings
- **Networking & Alignment:** to strengthen connections and harmonize objectives within the antimicrobial coating community
- **Knowledge Sharing:** to share lessons learned and promote smarter, more effective future endeavors while establishing a shared space for disseminating research, findings and upcoming events.
- **Awareness & Dialogue:** to enhance mutual understanding and foster open discussions on community challenges.

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