



RELIANCE

Upscaling of antimicrobial nanoparticles

**Beyond just a prototype:
successful upscaling of
antimicrobial silica
nanoparticles manufacturing**



MILLIDYNE

Surface Technology

The Challenge

To obtain first proof for the transferability,
repeatability and scalability of the manufacturing
process of antimicrobial mesoporous silica
nanoparticles



The Achievements

- Created in-depth understanding of the influence of process parameters
- The plausible bottlenecks of the current method were clearly detected



Key Conclusions

- **Robustness of the manufacturing process evidenced by reproducible results can enable further planning, optimization and upscaling to larger volumes.**



Recommendations



An easier and faster route to get new antimicrobial particles & coatings into the EU market should exist than the current one in compliance with the Biocide Act. With promising enough results, automatic support from EU should be granted to get the material onto the Biocide list.



To increase exploration of sustainable reagents or synthetic routes along with optimizing the manufacturing process for larger scale production.

Who is this result for?

- Researchers
- Coating manufacturers and formulators
- Coating end users

The application areas span healthcare and food industry to transportation and infrastructure. They can take advantage of the developed and upscaled antimicrobial additives as such or as included in antimicrobial coatings.



Long-term Impact



Antimicrobial coatings are important tools against microbes, and especially particular antibiotic-resistant bacteria like MRSA. These types of coatings are meeting the existing market demand.



RELIANCE

Visit our website:



reliance-he.eu

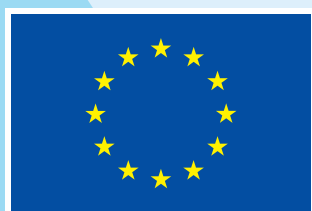
Follow us:



reliance-he-project



@reliance_he



**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 the European Health and Digital Executive Agency (HADEA). Neither the European Union nor the granting authority can be held responsible for them.