



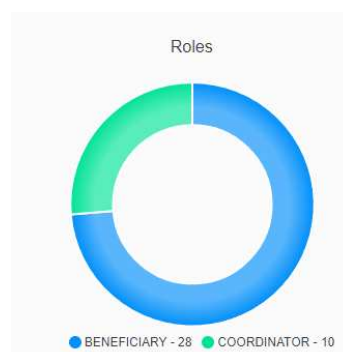
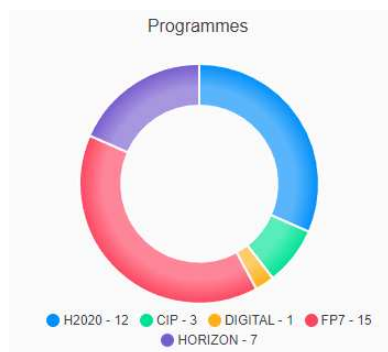
Development of Safe and Sustainable alternatives to Substance of Concern



Project Idea	New membrane + hybrid nanocoating → alternative to DWOR textiles (PFAS free) FINAL PRODUCT: Safer and more Sustainable Integration into product manufacturing Technical textile value chain SSbD
Organization name, town and country	LUREDERRA TECHNOLOGICAL CENTRE Los Arcos, Navarre, SPAIN
Addressed topic(s)	HORIZON-CL4-2026-02-MAT-PROD-21-two-stage: Development of Safe and Sustainable alternatives to Substance of Concern

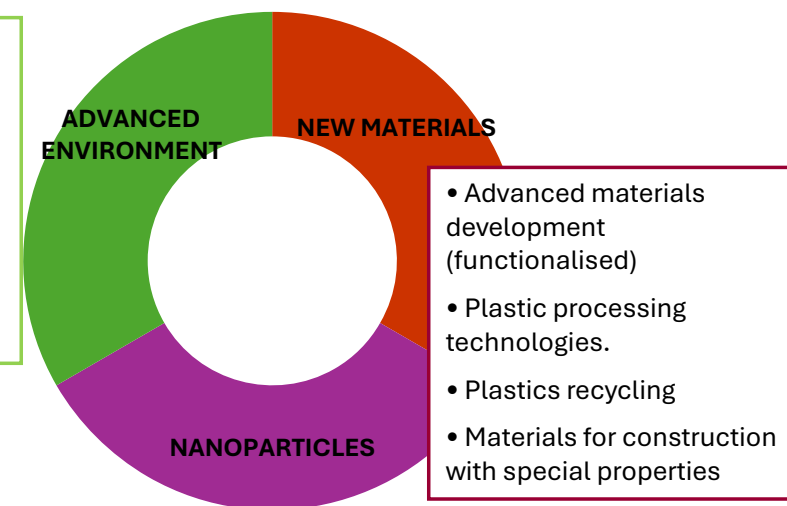


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LUREDERRA TECHNOLOGICAL CENTRE

- Wastewater Treatment
- Revalorisation of organic wastes
- Metal decontamination and metal recycling from wastes
- Nanoparticles applied to environment
- Sorbents for removal and recovery pollutants



L'Urederra Foundation, **non-profit private entity created in June 1999**, conducts and promotes research and technological development activities in the service of companies and economic operators, including the subsequent implementation of innovations developed in their own production facilities not only nationally but also internationally.

Industrial vision: Continuous development of marketable products and technologies quickly transferable and exploitable.

MULTIFUNCTIONAL COATINGS

1) IAM design, production and modification (functionalization):

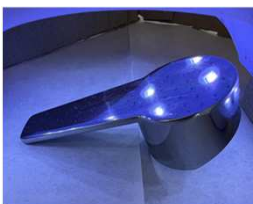
- Different IAMs: complex nanoparticles, microcapsules, metal fillers, 2D materials...
- IAM to provide anticorrosion, UV filter, hardness, hydrophobicity, self-healing....
- IAM for photothermal curing, encapsulation of catalysers

2) Matrix formulation and design for good substrate adherence

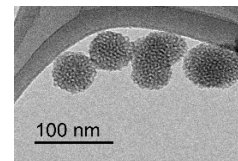
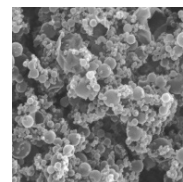
- Selection of additives and matrix for multifunctional performance
- Some examples:

UV curing (photoinitiators)

1. Hydrophobic (Contact angle $>100^\circ$), Oleophobic ($> 60^\circ$)
2. Easy to clean / Antigrafiti
3. Antimicrobial (Antibacterial test $R > 2$)
4. Corrosion resistance
5. Abrasion test cycles > 1.250 (ISO 11998)
6. Adhesion test (lattice cut) (ISO 2409 – GTO)

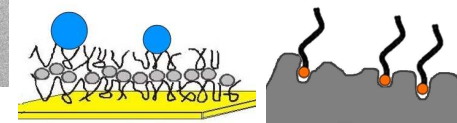


MULTIFUNCTIONAL COATINGS



Low temperature curing ($< 100^\circ\text{C}$)

1. Corrosion resistance
2. Good adhesion to substrate
ISO2409 - GTO
1. Easy to clean and non-stick
2. Hardness (9H)
3. Abrasion (durability to rubbing)



Non-porous substrates: Metal, polymers...

Porous substrates



Alternatives to Substance of Concern

- **DWOR** Durable Water and Oil Repelence in **TEXTILES**

Hydrophobicity $\text{Cobb}_{60} > 90\%$



- **PFAS FREE** for **PAPER**

$\text{Cobb}_{60} > 90\%$ and KIT 4-6



- **PFAS FREE** water repellent for **GLASS**

Competences / type of partners sought

- ✓ Companies interested in specifying challenges / necessities not covered by PFAS free current solutions:
 - ✓ lack of performance
 - ✓ transpirability
 - ✓ durability
 - ✓ washing conditions
 - ✓ Others: maintenance, costs...

- ✓ We are OPEN to COMBINE solutions:
Research organisations with complementary technologies (textile microstructure engineering, novel textiles...)

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