

Partner search/offer

Date (25-11-2021)

- **Relevant topic(s) in work programme (code & name of the topic(s) line(s))**

CL4-2022-TwinTransition-01-02 : Products with complex functional surfaces

- **Description of the expertise requested/proposed (up to 1000 characters)**

Proposed expertise

- Customised nano to micro-scale coating materials and surface treatments for different substrates (metals, plastics, polymers, glasses or vitro-ceramics): i) Research and development of materials for surface treatment and functionalisation; ii) set-up of the related deposition processes (namely: PVD/PACVD, laser texturing, powder coating) from low TRL up to industrial implementation.

- Tribology: i) Analysis of degradation modes and corrective actions; ii) Friction and wear tests thanks to multi-configuration and multi-scale tribometers and test benches

- Wide range of enhanced surface property: ultra low friction in dry or lubricated environment, anti-abrasion, anti-erosion, hydrophobic or hydrophilic layers, surface conductivity, catalysis and surface reactivity, corrosion protection, electromagnetic shielding, heat resistance, optical coatings (filters...), photonic materials, ...

- Wide range of applications: transport, energy, aeronautics and space, optics and photonics, health

- **Keywords describing the expertise requested/proposed (up to 10 words)**

R&D on surface engineering, coating materials, industrial process design, nano to microscale laser texturing

Organisation information

Organisation and country:

IREIS - INSTITUT DE RECHERCHES EN INGENIERIE DES SURFACES

Type of organisation:

Enterprise SME Academic Research institute Public Body Other: Association

Former participation in FP European projects?

Yes : project MSCA ITN (Acronym: SOLUTION ; grant agreement: 721642)

Web address:

www.ireis.fr/en/

www.tribologie.ireis.fr/en/home.html

Description of the organisation:

IREIS – Institut de Recherches en Ingénierie des Surfaces- is the R&D branch of the HEF Groupe, a world leader in surface engineering (created 60 years ago, 2500 employees worldwide, present in 25 countries). IREIS improves the properties of surfaces and provides them with new functions, develops new coating processes and technologies in the fields of tribology, thin films (PVD/PACVD), micro-texturing (laser) and diffusion layers.

The fields of application of these materials and processes are vast and include in particular the automotive, aeronautics, space and defense, optics/photonics, energy and biology/health sectors.

Moreover, IREIS participates regularly to collaborative R&D projects mostly in the framework of regional and national funding programmes (ANR, FUI, ADEME, Program of Investments for the Future (PIA)), but also of European programme Horizon (the project MSCA ITN (Acronym: SOLUTION / grant agreement:

721642) being the most recent one). These projects cover a large scale of TRL, from the proof of concept to the development plan and technology transfer.

Finally, IREIS is also strongly involved in national and European industry clusters:

- National/regional business and innovation clusters: CIMES (www.cimes-hub.com/en/), MINALOGIC (www.minalogic.com/en/), TECHTERA (www.techtera.org/en/)
- European cluster: Member elected on board of directors EFFRA (European Factories of the Future Research Association)

Contact details

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