FIT-4-NMP

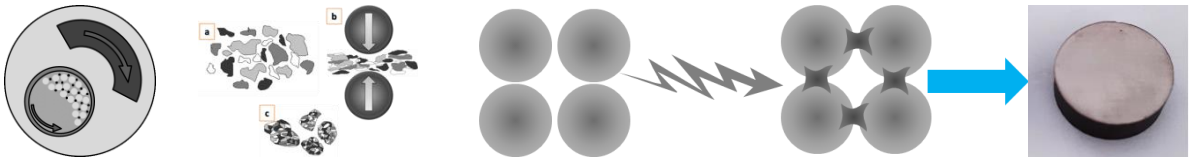
FIT-4-NMP Networking and Brokerage Event

organized by FIT-4-NMP H2020 project at the 45th International Semiconductor Conference - CAS 2022

High Entropy Alloys Functional Coatings (corrosion/wear resistant) - HEA-FC

Short description: The implementation of the project will lead to the acquisition and consolidation of new technical knowledge of the research teams in the field of high entropy alloys and of functional coatings with the role of protection against the effects of corrosion and wear.

The project's novelty consists in the development of new materials with specific corrosion/wear resistance properties for high temperature structural and functional applications in industries such as space, nuclear and energy. Due to their complex nature, HEAs can be easily modified to ensure optimal properties. The novelty element represents the identification of the best deposition techniques in order to achieve superficial layers with high corrosion/wear resistance properties as well as the specific deposition parameters. This type of alloys can have clearly superior predetermined properties represented by the summation of the properties of the constituent elements. The adjustment of certain properties is achieved by changes in the chemical composition, microstructure or processing method of the material. For economic reasons, a possible use in the industrial environment of high-entropy alloys is represented by the coating of components working in environments where wear, erosion or corrosion are present at an accelerated rate, thus promoting HEA to extend the life of in work equipment.



Short description of **LABORATORY OF METALLIC MATERIALS (LMMet): Elaboration of micro/nano metallic materials and composites through eco-nano/micro technologies, emerging technologies, powder metallurgy (PM) , spark plasma sintering (SPS), magnetron sputtering and their characterization (Nano/Micro indentation, Tribometer, Calotest).**

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The main interest is to attract partners with different deposition methods (LMD, MAPLE, PLD) and/or in-situ testing possibilities.
The novelty elements will generate the diversification of the partner company's product portfolio and the expansion of its market. Topic of interest: Advanced materials/Manufacturing Technologies.

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