

Project Partners



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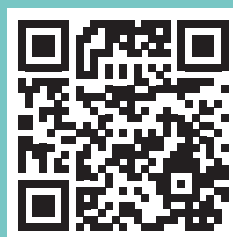
#MOZART

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METAL MATRIX
NANO-COMPOSITE
COATINGS
UTILIZATION AS
ALTERNATIVE
TO HARD CHROMIUM

PROJECT DETAILS

Start date: June 2022

Duration: 42 MONTHS

EU contribution: 4.66M EURO





MOZART IN A NUTSHELL

MOZART project has the ambitious purpose of assisting the fulfillment of REACH requirement to eliminate Hard Chromium (HC), a toxic and carcinogenic substance, offering an environmentally less harm and less toxic alternative to the painting and coating industry.

Its main goal is to develop high quality durable metal coatings to replace Hard Chromium (HC) based on Nickel (Ni) matrix nano-composite electroplating processes following Safe and Sustainable by Design (SSbD) principles.

MOZART aspires to develop the first in the world real applicable nano-composite coatings that will revolutionize the surface finishing industry in specific applications such as the automotive, manufacturing and machining industry.

TECHNOLOGIES

- ▶ 2 families of Ni composite coatings: reinforced by ceramic nanoparticles and by 2D materials
- ▶ Data driven model for coatings' structure under the SSbD principles
- ▶ Simulation/modelling of composite plating
- ▶ Online monitoring of nano-ceramic and 2D materials
- ▶ Achievement of mono-dispersed composite electrolytes



3 INDUSTRIAL APPLICATIONS



AUTOMOTIVE

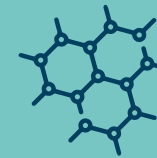


MANUFACTURING



MACHINING

IMPACT



SCIENTIFIC

ADVANCED NANOCOATINGS AND AI MODELS AND SIMULATIONS



TECHNOLOGICAL

2 NEW FAMILIES OF SSbD NANOCOMPOSITE COATINGS



ECONOMIC

50% MORE EFFICIENT Ni-BASED NANOCOATINGS



SOCIETAL

HEALTHIER AND SAFER ENVIRONMENT DUE TO ELIMINATION OF HC

