

## PROJECT'S PARTNERS



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#PureNanoProject

### Management Team

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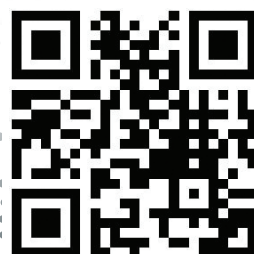


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A purification/  
regeneration process  
of spent plating baths  
based on functionalized  
magnetic nanoparticles.

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## The Challenge

Surface finishing treatment is a significant process applied in many industrial sectors (automotive, aerospace, electronics, heavy industry, printing, domestic applications & consumers goods, jewelry) with the view to extend the life of metallic components providing surface properties and functionalities via the application of coatings using electro and electroless plating baths.

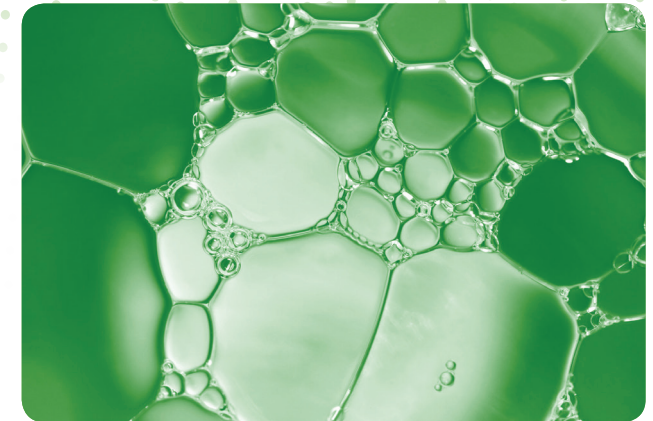
However, the continuous use of the chemical baths leads to accumulation of by-products and decomposed compounds that burden the bath from its proper operation and thus, needs to be removed (spent baths). Every year a total amount of 300.000 tons of hazardous waste is produced (an average of 16 tonnes per installation).

## The PureNano Project

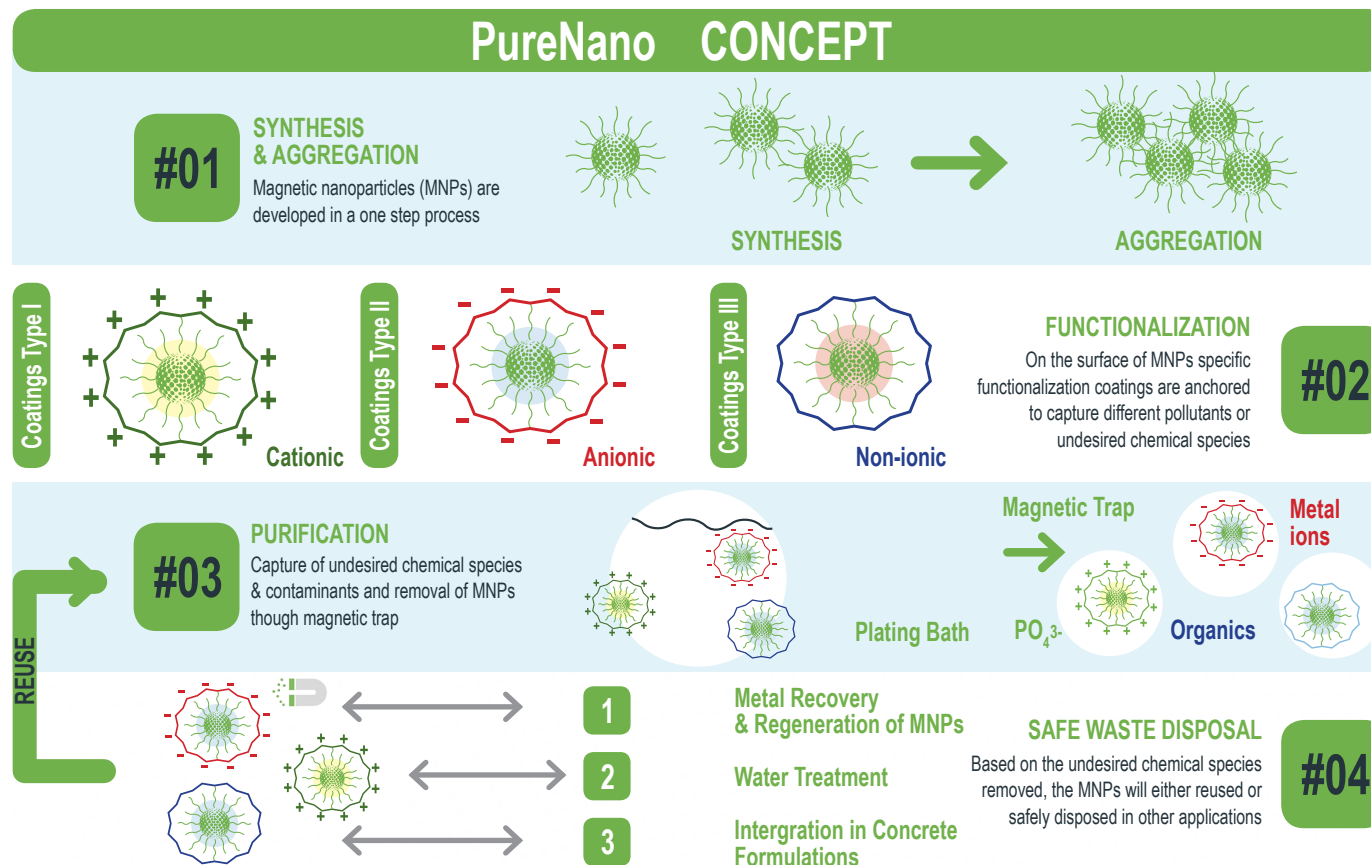
PureNano propose is an innovative, low cost, sustainable method for in-situ purification of plating baths that will lead to a significant extension of their life (up to 10 times). The process will result to an important decrease of both operation expenditures of plating shops and environmental risks from transportation of spent baths. At the same time the process efficiency and product's quality will be enhanced.

PureNano process is based in the treatment of plating baths with functionalized magnetic nanoparticles (MNPs), that can absorb in their surface the contaminants and chemical species that are accumulated.

## Impact



- Reduction of hazardous wastes from plating industry
- Significant savings for the plating industry
- Easy adoption of the purification system in the plating lines
- Fast and high efficient purification process
- Boosting Circular Economy Action Plan
- Easy and safe disposal of used nanoparticles
- Strengthening the competitiveness of European surface finishing industry



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