



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

## Circularity concept in PureNano

<b>Date:</b>	<b>27 September 2022</b>	
<b>Location:</b>	Creative Nano, 43 Tatoiou Str. Metamorfofi, Greece, Athens	
<b>Project Coordinator:</b>	POLIMI/ Prof. Luca Magagnin	
<b>Workshop Responsible:</b>	AXIA INNOVATION/ Project Manager Cristina Onorato	
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## Summary

The interest in recycling and in the circular economy concept from the government, society, academia, and industry is grown constantly in the last few years. The transition towards a circular economy model is challenging since it requires a change in the economy and production assets; what is considered a waste in the linear economy, becomes a resource in the circular approach.

Initially, the circular economy approach was applied exclusively to the technical processes, where efficient resource use was examined to reduce their environmental impact. Recently it has been recognized that in order to facilitate the transition, not only the technology needs to change but even the whole business strategy and value chain needs to be adapted, with the help eventually, of a new business model.

Against this background, the PureNano concept offers a great contribution to supporting the transition toward the circular economy. The plating industry produces every day a huge amount of hazardous waste that is transported to specific treatment plants, where mainly chemical or electrochemical processes are applied, producing a big amount of sludge. In PureNano the spent bath is regenerated by using Magnetic Nanoparticles (MNPs) that capture the contaminants present in the spent bath, extending its life by 6-20 times. The PureNano technology allows both to have a reduction in cost and a reduction in the environmental impact of the process.

This workshop covers the circularity concept behind the PureNano project and a detailed analysis of recyclability. The first part provides an overview of the circular economy concept, its application to the plating industry and a clear picture of the current waste management practices. The second part is related to the application of the best circular business model (CBM) to the two pilots developed during the project.

### *PureNano Circularity workshop agenda*

<b>The circularity of PureNano technology (AXIA)</b>		
<b>27 September 2022</b>		
<b>14:00 – 14:20 Gathering at Creative Nano - Registration</b>		
<b>14:20 - 14:30</b>	<b>Welcome – Introduction to PureNano Project</b>	<b>Prof. Luca Magagnin, Coordinator/ POLIMI</b>
<b>14:30 - 15:00</b>	<b>Circularity concept in PureNano</b>	<b>AXIA</b>
<b>15:00 - 15:30</b>	<b>Tour in Creative Nano Premises, Demonstration of PureNano PL</b>	<b>Creative Nano</b>
<b>15:30 - 16:00</b>	<b>Round Table</b>	<b>All</b>
<b>16:00 End of the workshop</b>		