

FreeMe

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Coatings 2026: Safe and Sustainable by Design

Surface Treatment and Coatings

Athene-20 April 2026



Gruppo GASER

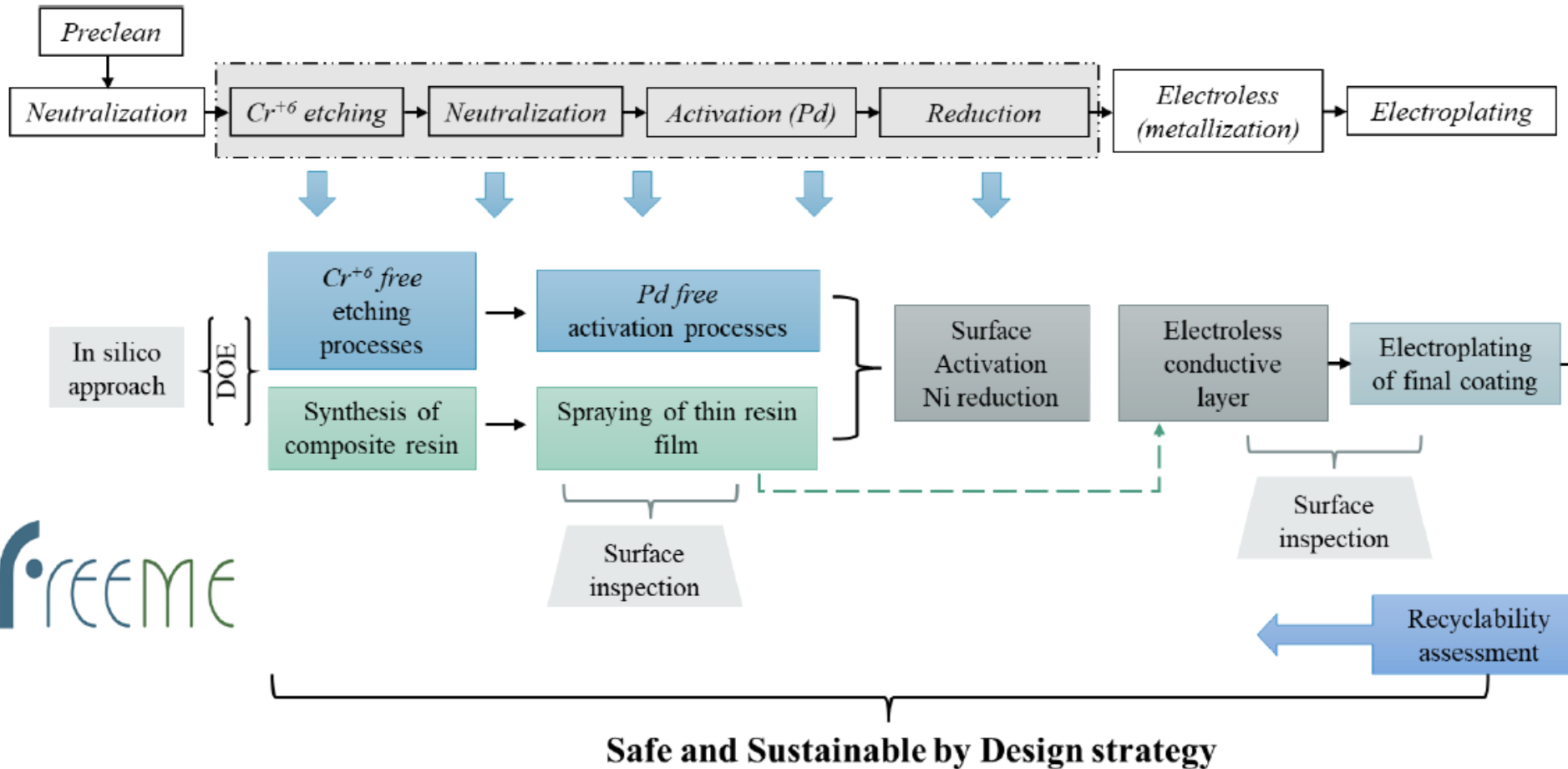
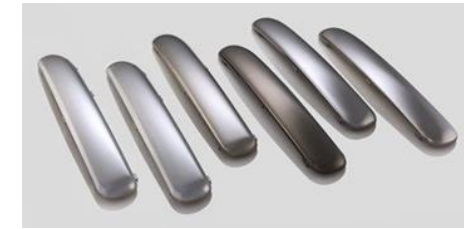
Valsecchi Mirco

**Toxic
FREE METallization process
for plastic surfaces**



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FreeMe Project – Sustainable Metallization on Plastics



CURRENT ISSUES

- Cr⁶⁺ and Pd usage
- Environmental pressure
- High material cost

FREEME SOLUTIONS

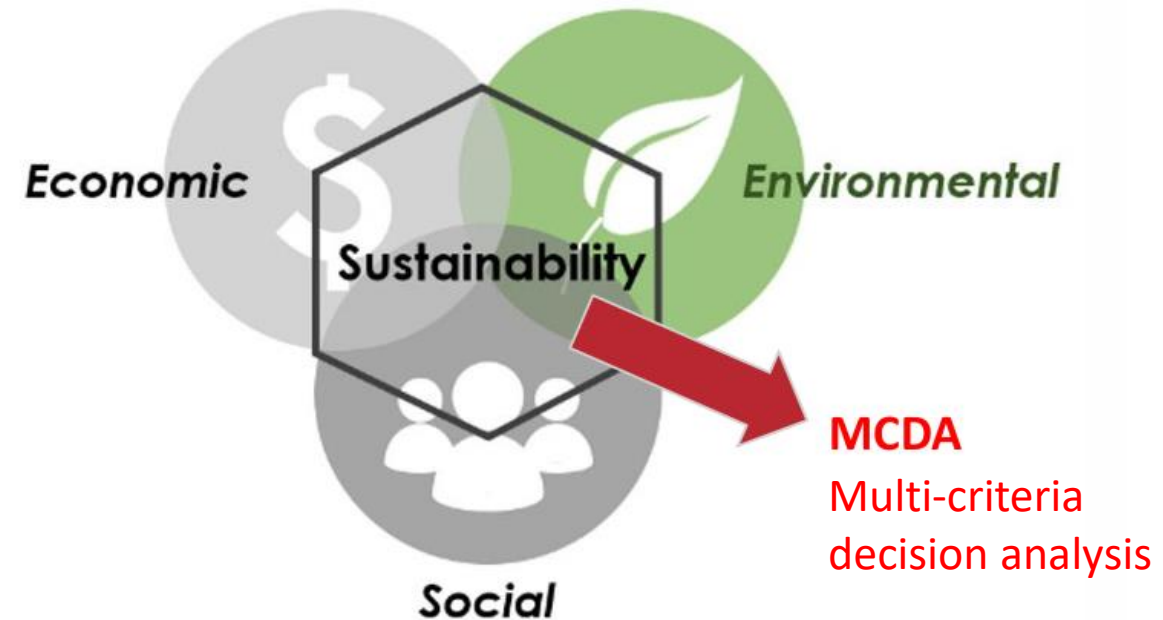
- Sprayable resins
- Cr⁶⁺-free etching
- Pd-free activation



Application of the Sustainability and Safe-by-Design strategy

Aim: to implement a SSbD innovation approach to ensure that the resulting FREEME's processes are safe, both for humans and the environment, and sustainable along their life cycle at an early stage, aligned to the EU chemicals strategy for sustainability. This includes:

- Safe-by-Design (SbD) strategies, which focus on Safe-by-Material Design–SbMD– strategies, and Safe by- Process Design–SbPD– strategies.
replacement of chromium
- Sustainability-by-Design (SusbD) strategies that can increase the environmental, economic and social sustainability performances of the novel PoP processes.
replacement of palladium





THANK YOU!

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