



MATLUX

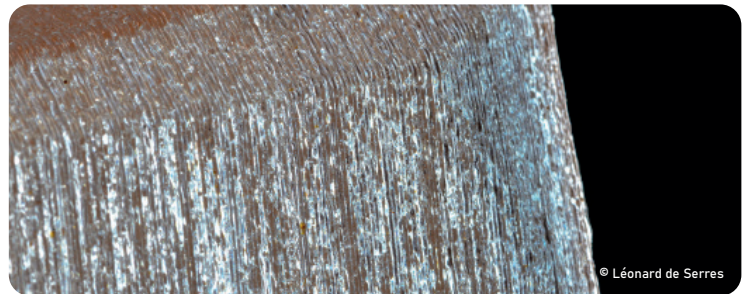
New printable multi-MATerials for the LUXury good sector

A biopolymer sprinkled with a handful of gold and material shaped by 3D printing that plays with the light – all to deliver creations to the fashion and luxury goods industry.

Carnot M.I.N.E.S Institute

Scientific / technological breakthrough

One of the major strengths of 3D printing is the possibility of customising almost any item or product. 3D printing is still subject to technical constraints such as the relatively restricted range of printable materials on the market, especially those that can deliver good surface quality, combining flexibility and strength while offering original aesthetic features. The research team has come up with innovative materials based on recyclable biopolymers (PLA in particular), incorporating a metallic phase (gold, for example) in the form of nanoparticles, whose quantity may be adjusted to achieve the desired effect. This expertise makes it possible to control the rheological properties, surface properties and interface between the constituents (powders/polymers) in order to deliver the desired architectural and functional properties.



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Competitive advantage for the economic stakeholders

This new printing material allows companies to exponentially increase their creative potential by embracing not only the possibility of producing complex shapes in small runs, but also by mastering visual effects or playing with light and dichroic effects, for example. The advantage of using a biodegradable polymer such as PLA is the possibility of recycling the precious metal particles at the end of the form's life. In addition, 3D printing allows for optimal use of the precious particles in the required areas only (e.g. on the surface).

This new printable biopolymer allows packaging companies, designers or stylists to market innovative solutions that combine precious materials, originality and recyclability.



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