Eco-design: Industrial performance GenesInk's vision

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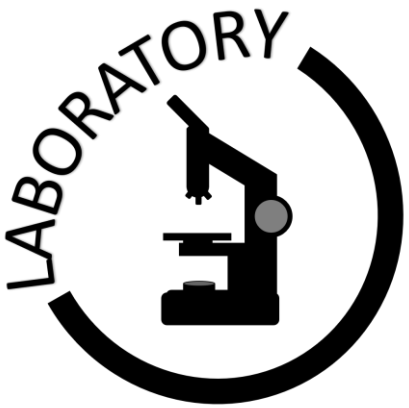
GenesInk's Mission

We design **nano inks** with **functionalities at their core**
from particles synthesis to the end printed product.

We free up **electronics** to enable
a **new generation of consumer electronics products.**

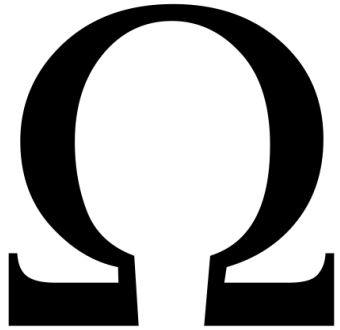
GENESINK
SMALLER, FURTHER, FASTER

What problems are we solving?



It is nice but it is for the lab
Nanoinks are not available nor reliable at industrial scale

New consumer electronics product designs require **smaller and more flexible** electronics to fit into smaller and more complex form factors

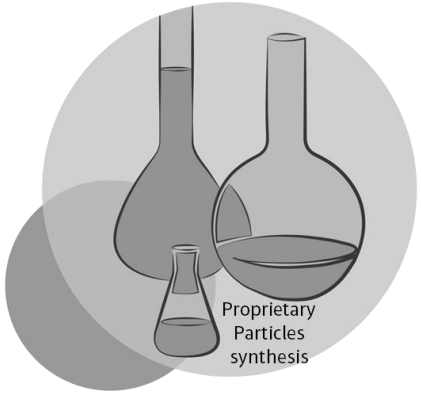


High conductivity is critical for consumer electronics applications

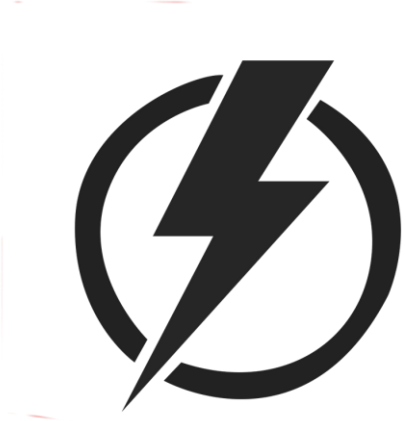
Since decades, production of PCB circuits has been both **environmental** and **operator unfriendly.**

How de we resolve them?

It's for mass !
GenesInk nanoinks are available at industrial scale
No additional CAPEX nor modification of the production chain



GenesInk's inks are designed with combined mechanical and optical functionalities at the core **flexibility, stretch-ability, thinness, transparency**



We design **ultra power efficient (conductive)** nanoinks. Up to **5x times more conductive** than market leaders

We design **all** GenesInk's nanoinks from synthesis, formulation and production to **be respectful of humans and the environment** and to be sustainable.

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Strong IP and off-the-shelf Product range

40 nanoinks retail products

3 Product families

60+ Patents filed

12 Patent families

SMARTINK
Silver conductive nano inks

TRANDUCTIVE
Transparent conductive nano inks

HELIOSINK
ZnO, AZO, and WO3 semi-conductive nano inks

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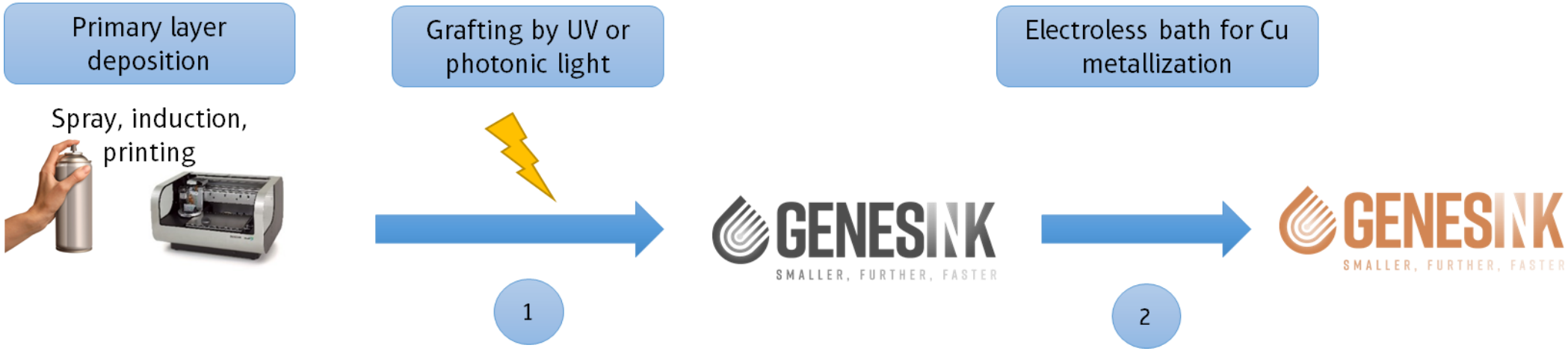
Case example:
THINMET process – Cu metallization

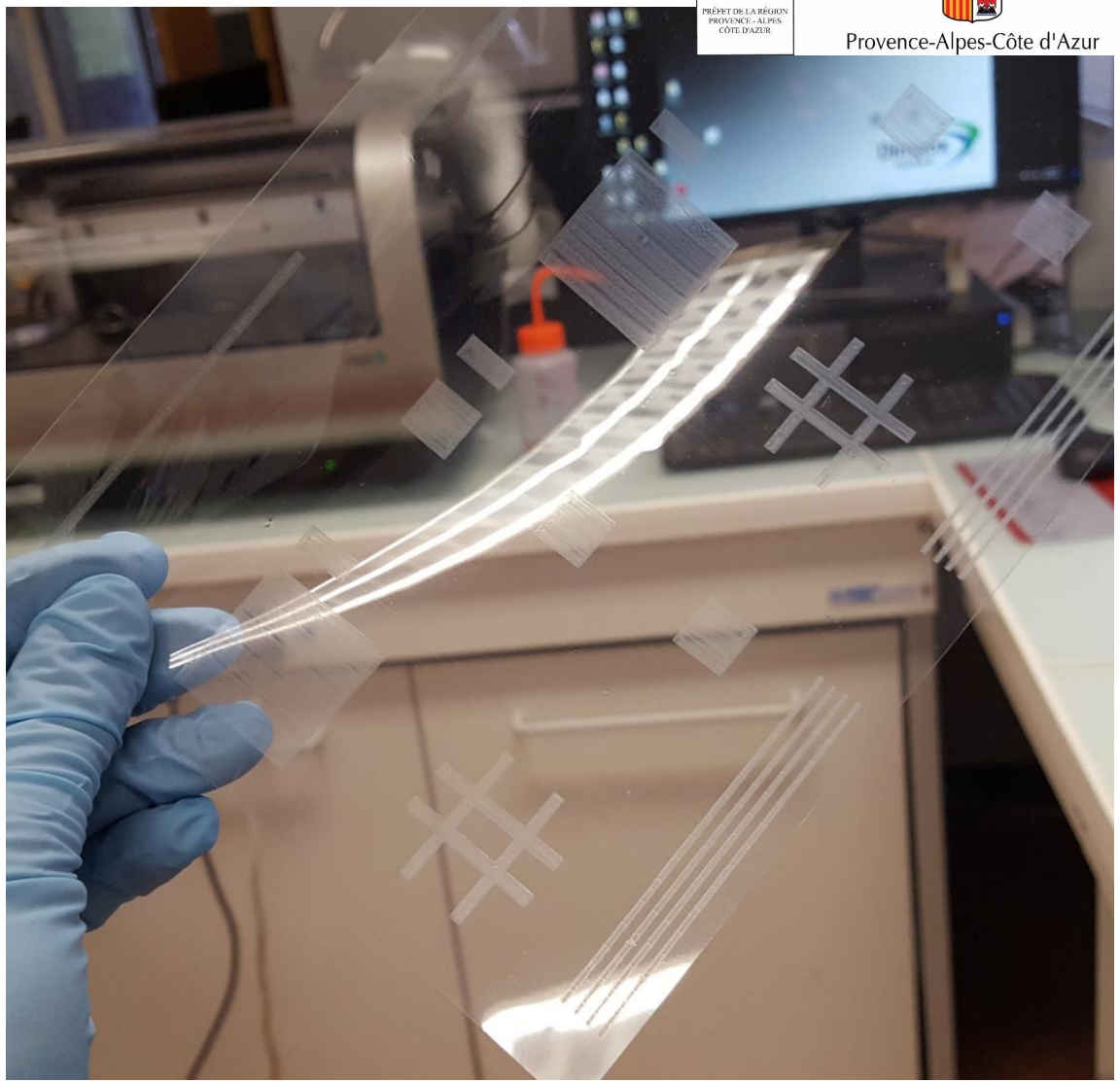
- Challenges:
  - Polluting and harmful sulfochromic baths and etching metallization.
- Our solution:
  - 2 steps process to metallize various types of surfaces: glass, polymers, textiles, composites, etc.
  - Alternative to harmfulm conventional metallization processes by additive manufacturing.



Patented technology (WO2018104685)

Case example: THINMET process – Polymer grafting

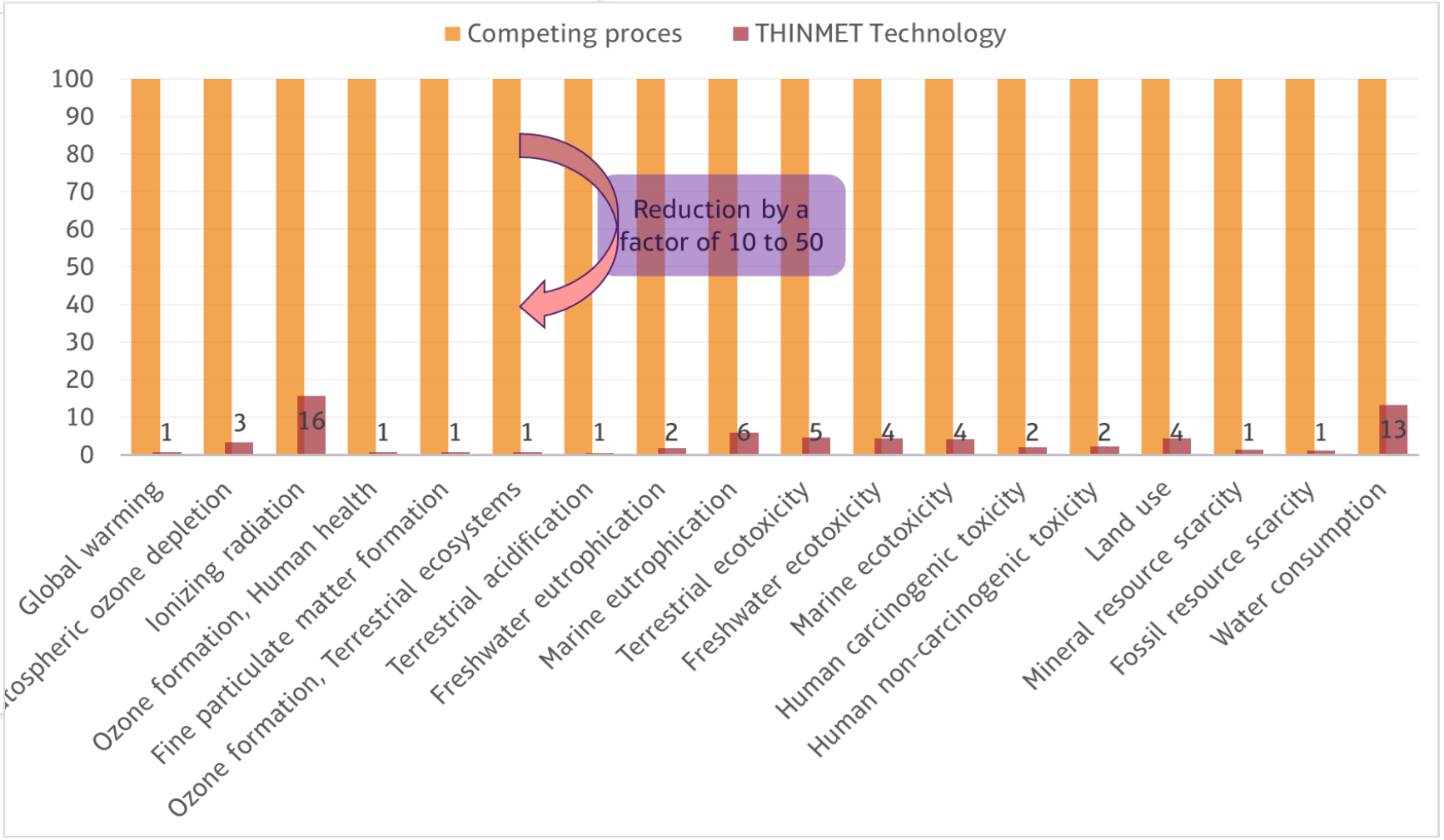
- Primary solution
  - based on polar **non-toxic** solvents
  - deposited by additive manufacturing method → **no etching**
- Sintering done by **light** (UV – 5 minutes or photonic → 10 s) → sustainable and efficient curing processes
- Use of a **non-toxic** reducing agent to reduce the catalyst (metallic salt)



Case example:
THINMET process – LCA (outsourced*)

Evaluation of our Eco-designed process

→ 10 to 50 times less polluting on overall criteria



THINMET
An eco-design process for various applications

- **Cu thickness:** from 0.25 µm to 2 µm
- **Various types of substrates**: Compatible with composites, PET, PVC, ABS and Kevlar
- **Adhesion**: 4B - 5B
- **Electrical resistivity**: down to 5 µOhm.cm (2 x 10^7 S/m)
- **Lightning protection**: No degradation or delamination after lightning tests
- Low weight compared to other lightning protected coating (divided by 20)
- **Printing process**: Inkjet & Spray

Co-ordinates of our team

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