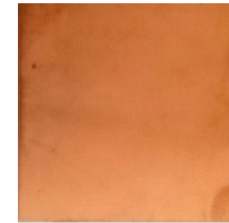
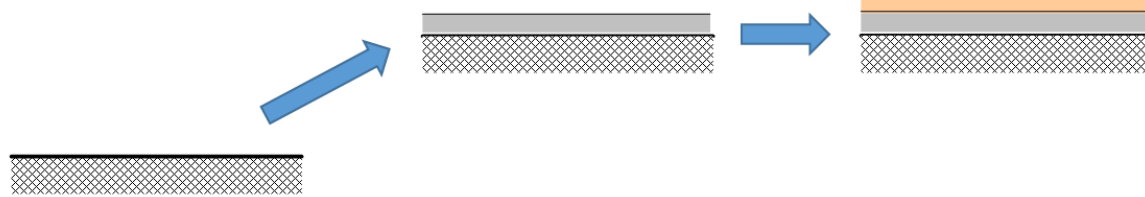


Selective Metallisation of Dielectric Materials using a Magnetic Field

- A novel method has been developed to enable the selective metallisation of dielectric materials without the need for masking (e.g. photolithography). This is achieved by the synthesis of magnetic/catalytic core shell nanoparticles and which are selectively deposited on a material using a magnetic field and subsequently electroless plated
- Expected synergies and complementarities: The process would be applicable where a non-conductive substrate needs to be selectively metallised and would be particularly useful in electronic manufacturing
- Outcomes: Further development of the process towards a well defined application
- Market & Business opportunities: Elimination of masking and associated photolithography would significantly cut production costs in electronic manufacturing
- Wanted additional partners : Electronic manufacturers, chemical suppliers, surface engineering companies

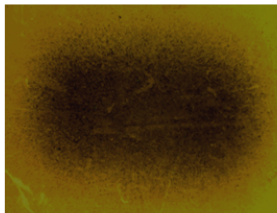
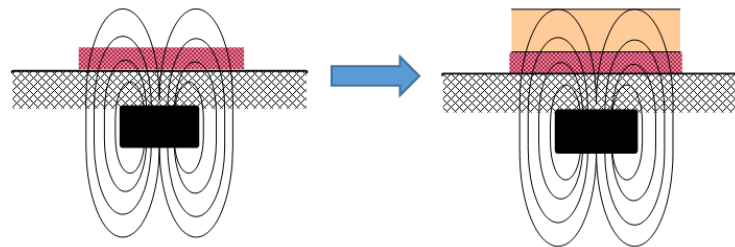
Selective Metallisation of Dielectric Substrates using a Magnetic Field

Standard deposition

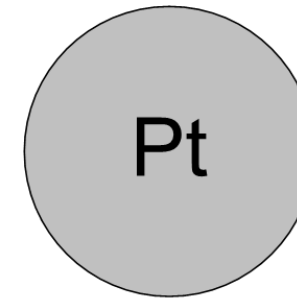


- magnet
- deposited modified catalyst
- deposited catalyst
- resistive substrate
- deposited copper

Selective metallisation

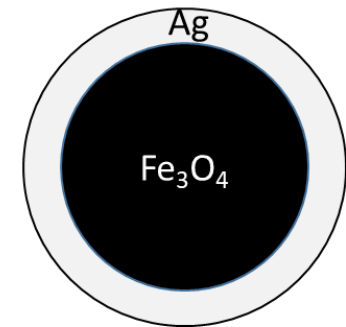


Standard catalyst



- catalytic

Modified catalyst



Properties

- catalytic
- magnetic