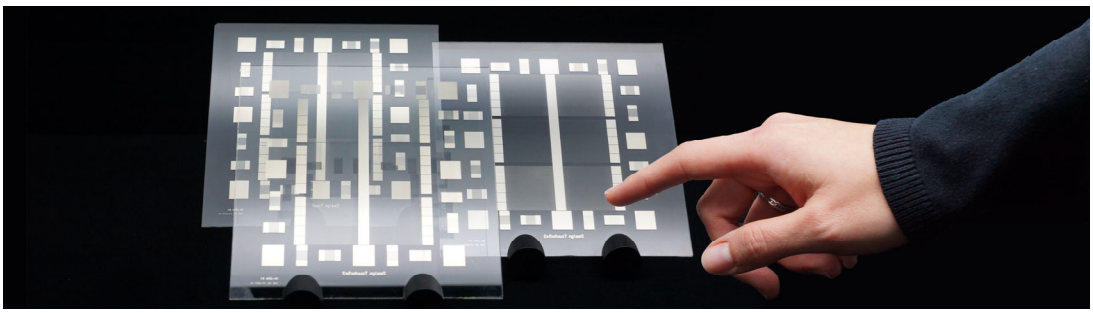
New Ideas. New Materials.



Silver structures in the range of microns

# LAB TECHNOLOGY

## PHOTOMETALLIZATION – NEW TOUCHSCREENS

### OBJECTIVES

- Flexible and cost-saving fabrication of electrically conductive macro- and microstructures on glass- and plastic-substrates.
- Substitution of strategic elements (ITO)

### METHOD

- Coating of the substrate with photoactive compound
- Wetting of the substrate with silver complex suspension
- Irradiation with UV-light produces metallic silver films

The structuring can be either done by

- Direct writing with a laser
- Irradiating through a photo mask (contact, proximity or projection)
- Irradiating through a flexible, UV-transparent stamp

### RESULTS

- Silver structures up to a thickness of 100 nm on rigid or bendable substrates
- Structure width down to micron range
- Sheet resistance down to 200 mΩ/□
- Alternatively also applicable for copper or gold structures

### APPLICATIONS

- Circuitry for display technology and touchscreens
- Contacting in photovoltaics
- Intelligent packaging via printed electronics

Examples for suitable substrates:

- **Glass**
- **Ceramics**
- **PC** – Polycarbonate
- **PET** – Polyethylene-terephthalate
- **PI** – Polyimide
- **PMMA** – Polymethyl-methacrylate
- **PVC** – Polyvinylchloride

### CONTACT

INM – Leibniz Institute
for New Materials
Campus D2 2
66123 Saarbruecken/Germany
www.leibniz-inm.de

Dr. Peter William de Oliveira
Head of Optical Materials
OptiMat@leibniz-inm.de
Phone: +49681-9300-375
Fax: +49681-9300-279