



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
- ▶ Irradiating through a flexible, UV-transparent stamp

#### RESULTS

- ▶ Silver structures up to a thickness of 100 nm on rigid, bendable and even stretchable 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**
- ▶ **PC** – Polycarbonate
- ▶ **PET** – Polyethylene-terephthalate
- ▶ **PI** – Polyimide
- ▶ **PMMA** – Polymethyl-methacrylate
- ▶ **PVC** – Polyvinylchloride
- ▶ **PDMS** - Silicone

#### CONTACT

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