

**OST**  
Ostschweizer  
Fachhochschule

Fabrication

# InkJet Printing of Functional Coatings

## Goal

- Anti-fog and anti-scratch coatings for outdoor vehicle displays (excavators, motorcycles, ATVs, quads, snowmobiles)
- Applying smooth functional coatings with high optical quality on 2.5D substrates in defined areas using InkJet Printing
- Replacement of screen-printing, spin-coating and manual masking process

## Innovation

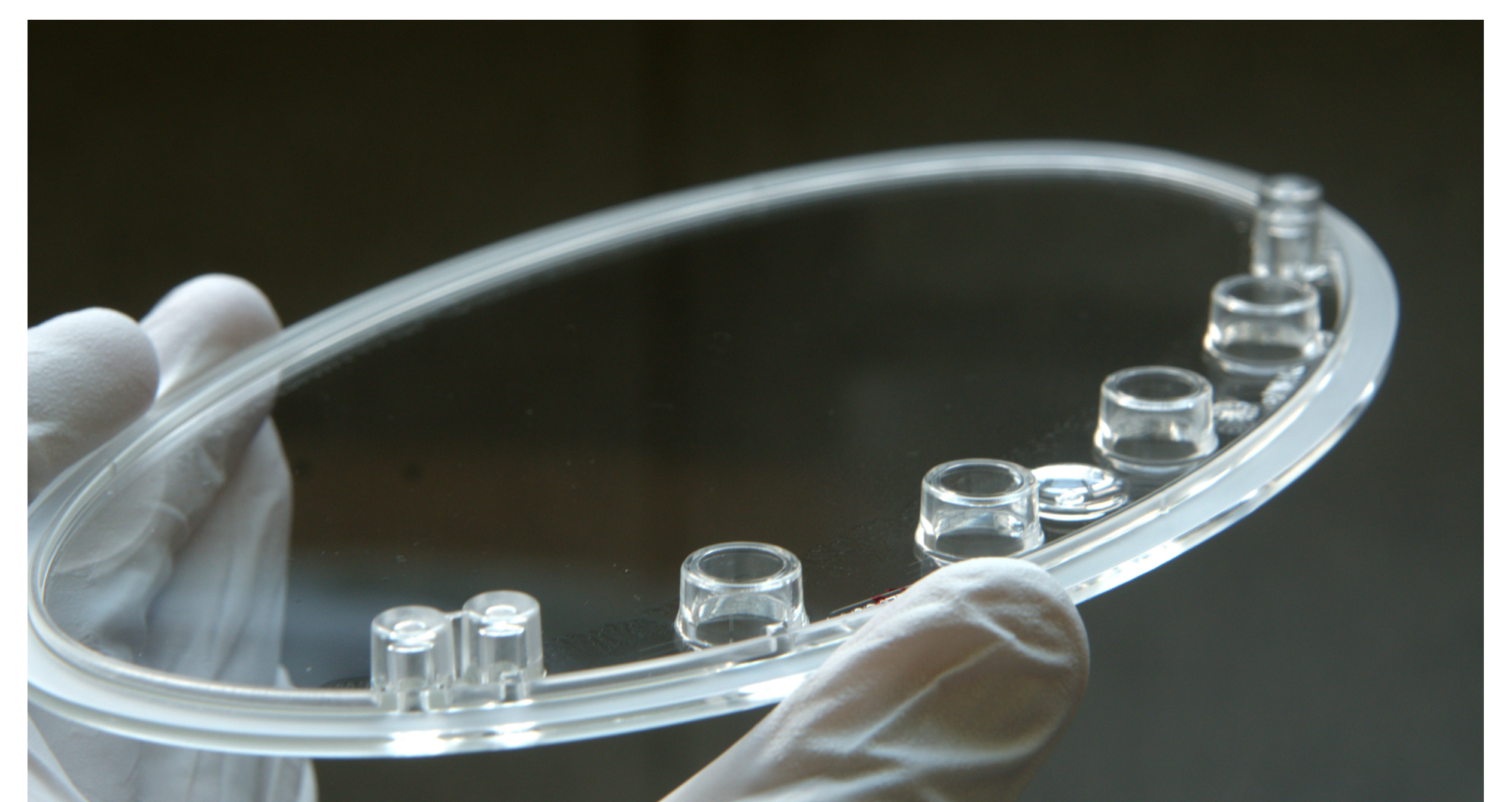
- Fully digital industrialized non-contact coating process for application specific fluids on high topographic surfaces

## Challenges

- Modification of commercially available anti-fog and anti-scratch coatings for inkjet deposition
- Inkjet printing system evaluation and printing process development for industrial environment
- Application related characterization of final printed coatings on customer specific substrates

## Results

- Reliable and economical printing process for modified anti-fog and anti-scratch coatings successfully demonstrated in industrial environment
- Haze-free and high-quality optical coatings were produced by inkjet printing onto 2.5D substrates
- 4000 parts were successfully printed and positively sampled by the customer



Final printed substrate with modified anti-scratch and anti-fog coatings.

## Conclusion

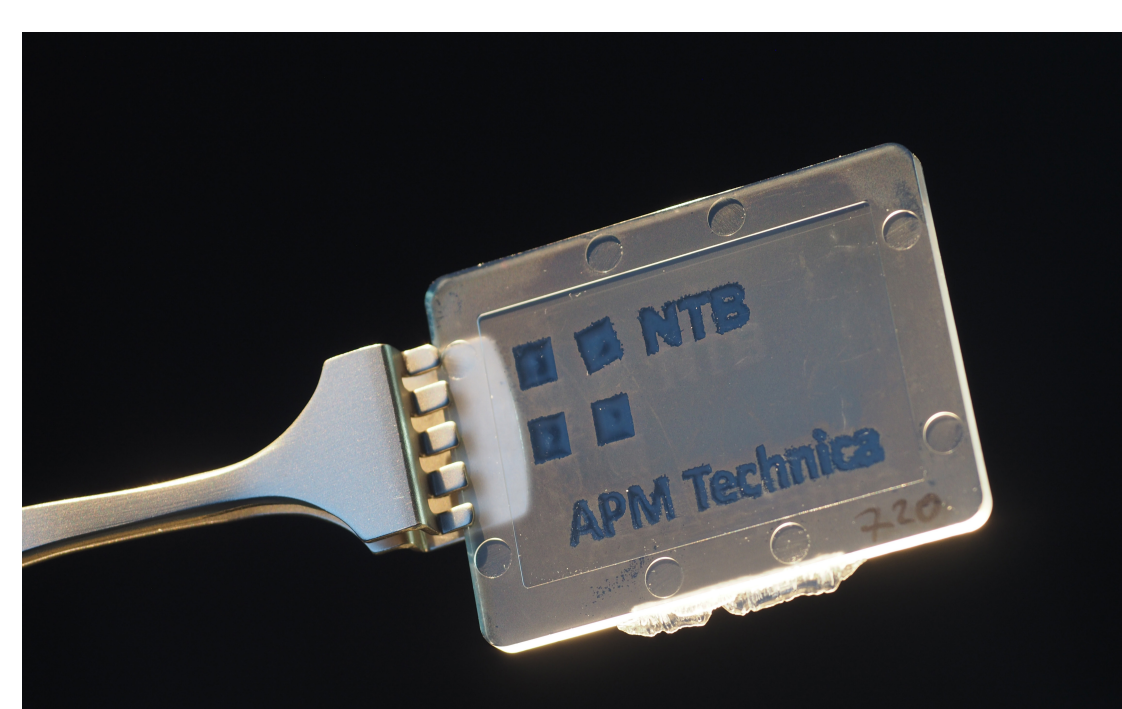
This collaboration provided the decision-making basis to the implementation partner APM Technica AG for the procurement of a hybrid printing system for production.

## Funding

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Anti-scratch coating colored for homogeneity tests.



Structured anti-fog coating for visibility purposes.



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