

# UNIQUE DIRECT PROCESSING PLATFORM TECHNOLOGY

## $\mu$ DALP™



ATLANT 3D technology is based on the state-of-the-art  $\mu$ DALP™ (Microreactor Direct Atomic Layer Processing), which use a micronozzle to deliver reactive gases that create self-controlled surface chemical reactions allowing direct patterning and structuring within designated areas.  $\mu$ DALP™ enables material innovation and rapid prototyping manufacturing on a wafer level to work with a versatile group of materials for electronic and optical applications.



Illustration of  $\mu$ DALP™ nozzle geometry and process principles (left), ellipsometry thickness map and low-energy ion scattering spectroscopy map of Pt deposition  
Ref: [Small Methods 2022](#), 6, 2101546

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|--|---|---|
| <p><b>Direct Patterning &amp; Complex Designs with Arbitrary Shapes</b></p>  | <p><b>Micrometer scale Line Width</b></p> | <p><b>Atomic Scale Thickness Variability &amp; Precise Gradient Control</b></p>                           |
| <p><b>Wide materials selection of the commercially available materials precursors, e.g. for dielectrics and metals</b></p> | <p><b>No vacuum required</b></p>          | <p><b>Deposition on Complex Surface Geometries and on Sensitive Materials, e.g. glass or polymers</b></p> |

## MARKETS AND APPLICATION DOMAINS

Fundamental & Industrial R&D

Optics & Photonics

Microelectronics

Emerging Technologies

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