ATLANT 3D®

7 Patents filed

6 Nanofabricators pre-ordered

17 Customer projects completed

15 Joint funded projects with R&D and industrial partners

OUR TECHOLOGY

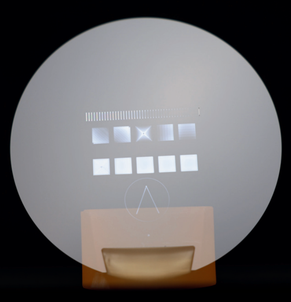
We provide on-demand, next-generation micro-device printing solutions capable of creating structures Atom by Atom® on simple and complex surfaces.

DALP® (DIRECT ATOMIC LAYER PROCESSING) ALLOWS

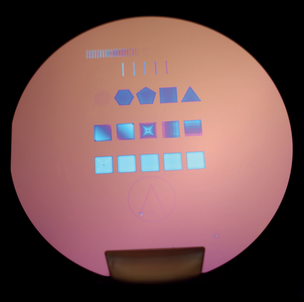
- Rapid atomic layer prototyping and manufacturing
- Highly selective atomic layer patterning
- Excellent 2D/3D conformal deposition on simple and complex surfaces
- Combining multiple materials with excellent compatibility
- Excellent pattern adhesion to almost any surfaces
- Digital and atomically precise control over the printing process

SELECTIVE AREA PROCESSING WITH ATOMIC PRECISION

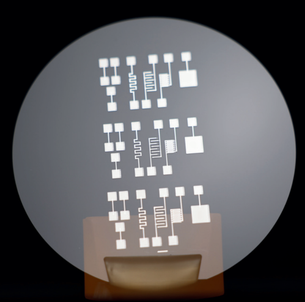
The key to DALP® is a “micronozzle” that ultimately “prints” atoms, layer by layer—technology we invented and patented.



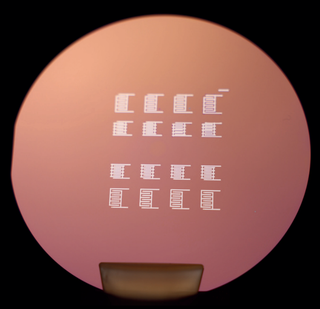
Metal Oxide variable shapes and gradients on glass



Metal Oxide variable shapes and gradients on Si



Metal electrodes on glass



Metal electrodes on Si

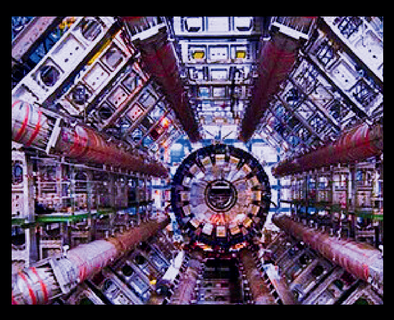
NANOFABRICATOR™ LITE

- ✓ Up to 2 Materials
- ✓ 400 µm Line Width
- ✓ Sample size up to up to 4″ (100mm)
- ✓ Deposition Speed up to 200 mm/s

OPEX COST	CAPEX COST	INNOVATON CYCLE SPEED	PROTOTYPING SPEED	MATERIALS
-80%	-90%	6x	18x	450+

OUR APPLICATIONS

BIG SCIENCE

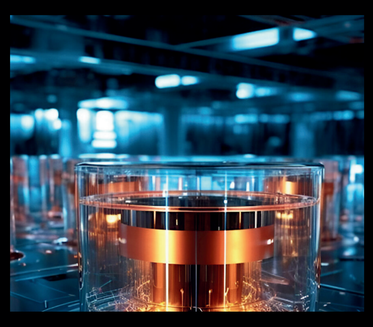


- Research
- Physics
- Chemistry
- Astronomy

PHOTONICS

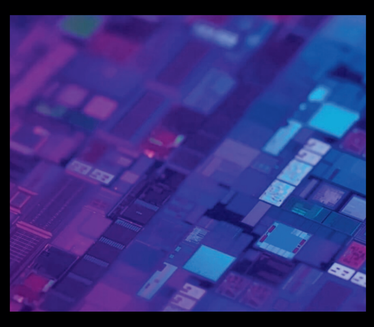
- AR & VR
- Diffractive & Refractive Optical Elements
- MicroLEDs

EMERGING TECHNOLOGIES



- Quantum Devices
- Neuromorphics
- Superconductors
- ReRAM

MICROELECTRONIC S & ENERGY

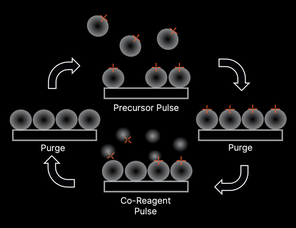


- MEMS Sensors & Actuators
- RF Electronics
- Advanced Packaging
- Power Electronics

FUNDAMENTAL & INDUSTRIAL R&D

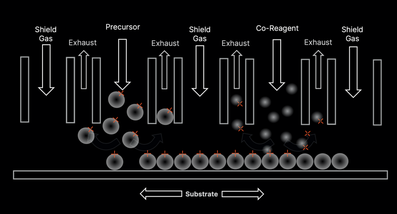
- New Materials
- New Processes and Stacks
- New Device Architectures

TEMPORAL ALD



Sequential pulse sequence for precursor and co-reagent delivery. Time base separation of reagents.

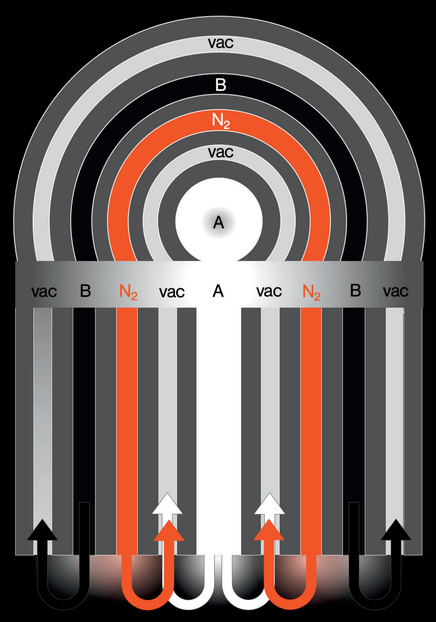
SPATIAL ALD



Spatial separation of precursor and co-reagent with increased deposition speed. Physical distance separation of reagents.

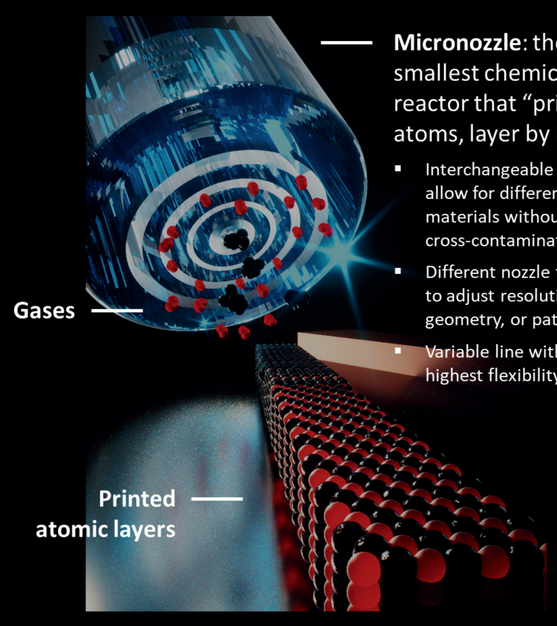
ATLANT 3D DALP™

DIRECT ATOMIC LAYER PROCESSING

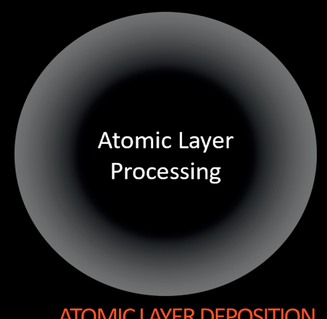


Microfluidic precursor delivery concept: Schematic view of the delivery nozzle in frontal view (top) and in cross-section (lower panel).

How DALP® works conceptually



- Micronozzles are the key component of all Nanofabricators™, enabling atomic-scale printing
- Designed for highest material versatility



ATOMIC LAYER DEPOSITION
- Growth of various materials
- Control at the atomic scale
- High quality of materials
- Conformality to any surfaces

SELECTIVE MANUFACTURING
- Bottom-up approach
- Realization of complex shapes
- Digital control of the printed features

TRUSTED BY

SONY NASA Merck esa life.augmented WEST HILL Innovationsfonden European Commission

UK Main office
DK HQ & LabFab
US Sales office

GET IN TOUCH
+45 22 29 00 80
info@atlant3d.com
www.atlant3d.com