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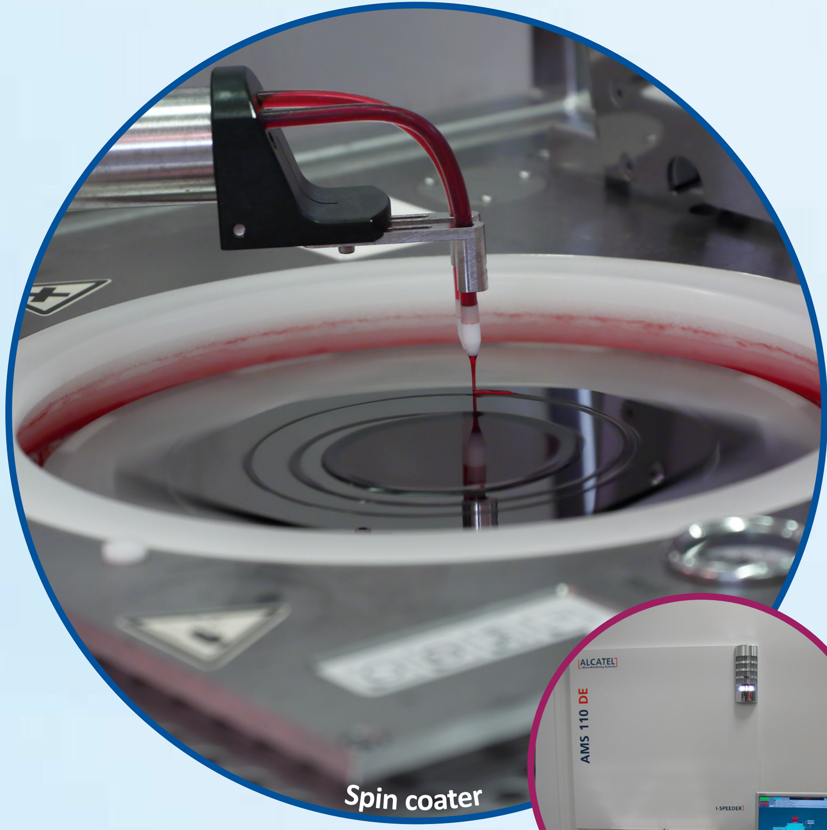
Capabilities


Spin coater

DRIE etching

Lithography

Photoresist	Mode
Deposition • Spin-coating • Spray-coating • Dry film resist	UV lithography • Contact • Proximity • Front/back
Type • Positive • Negative	Stepper lithography Nanoimprint lithography

Lithography

Laser driller

Wafer dicer

Micromachining

Micromilling	Laser machining	Dicing and drilling	Surface finishing
Direct milling	Laser cutting and drilling	Wafer dicing	Mechanical surface polishing
Mould making	Laser ablation	Dicing angle < 8°	Chemical mechanical polishing
		Laser and diamond wheel scribing	
		Polymers	

Etching

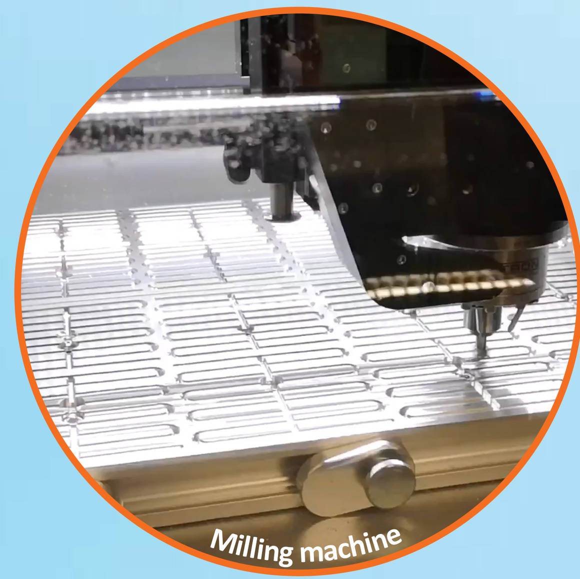
Dry etching	Wet etching
DRIE	B(HF)
RIE	KOH/TMAH
Powder blasting	H3PO4
	Metal etch

Wet etching

Soft embossing

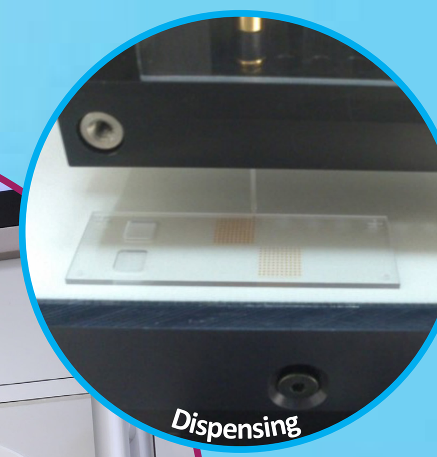
Surface functionalization

Surface functionalization	Spotting and dispensing
Plasma activation and polymerization	Plasma activation
Hydrophobic coating	Immuno-assays
Local surface (bio) functionalization and activation	Oligonucleotides
Wet chemistry processes	Reagent integration


Milling machine

Replication

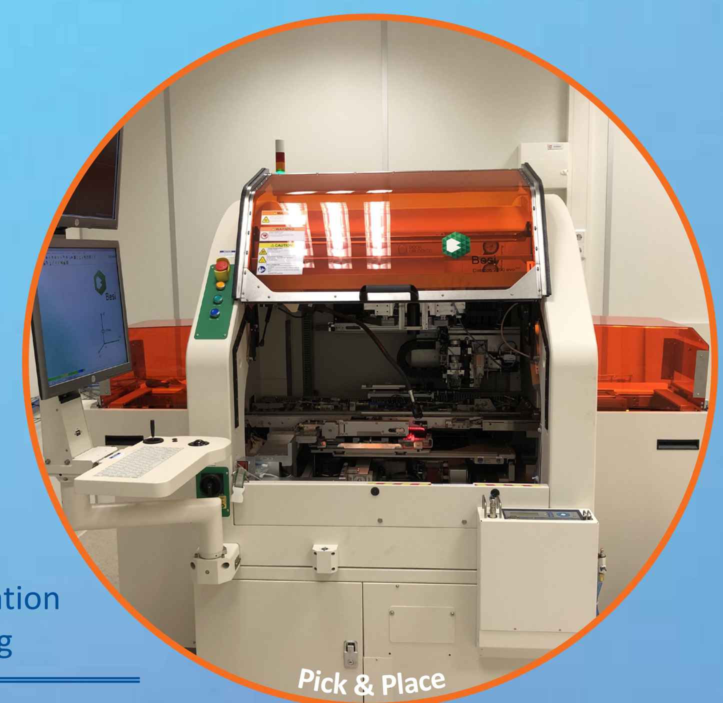
Embossing	Injection molding and reactive casting	Photolithography and patterning
Soft embossing	Milled molds	Nano-imprint lithography
Hot embossing	Lithographic molds	
Lithographic embossing molds	Silicone rubber casting	


Dispensing

Plasma assisted bonding

Thin film deposition

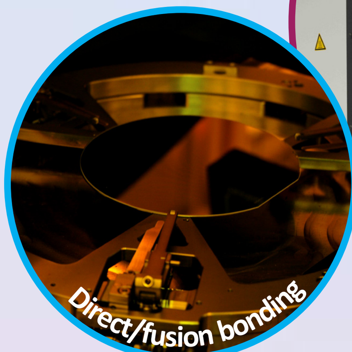
Physical vapor deposition	Chemical vapor desposition	Metallization on polymer
Sputtering Cr, Pt, Au, Ta, Ti, Al, Cu, Ito	SiO2, SiN, ONO	Sputtering
Evaporation Cr, Pt, Au, Ta, Ti, Al, Cu, Ito	SiO_xN_y	Evaporation
Pulsed laser deposition PZT		Alternative: Conductive polymers
Electroplating Cu, Au		


Pick & Place

Assembly and interfacing

Heterogenous material bonding/ hybrid integration	Post processing	Sensor integration and interfacing
Membrane integration	Laser barcoding	Conductive adhesives
Laser/room temperature bonding	Die level assembly	Conductive polymers
Pick-and-place		Flip-chip
Adhesive bonding		

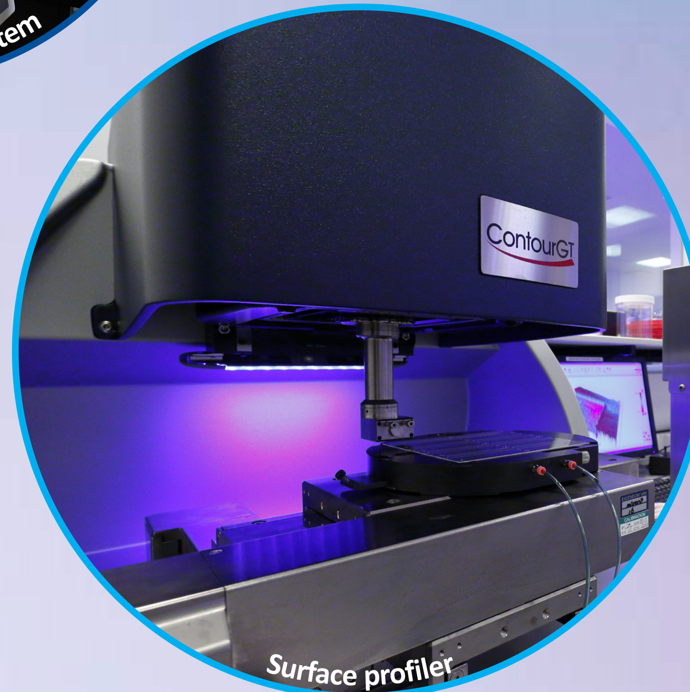
Oven


Direct/fusion bonding

Vision measuring system

Substrate and wafer bonding

High temperature bonding	Low temperature bonding	Polymer substrate bonding
Direct/fusion bonding	Wafer scale adhesive bonding	R2R lamination
Anodic bonding	Patternable adhesive bonding	Fusion (pressure/heat)/ Solvent vapor assisted
Eutectic bonding	Laser assisted (rt) bonding	Ultrasonic
		Laser


Surface profiler

Quality control

Non-contact metrology	Contact metrology	Surface characterization
Automated measurement microscope	Surface profiler	Contact angle metrology
3D interferometry	Profilometer	Reflectometry
SEM analysis	AFM	

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