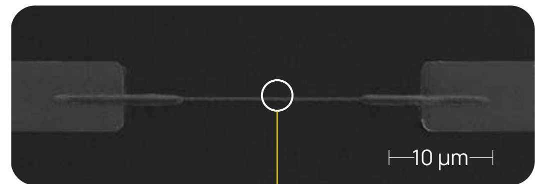
XTPL. Powering the microelectronics of tomorrow.

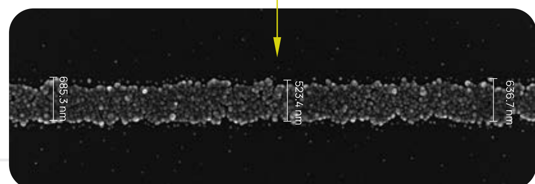
Revolutionize Yield Management with Ultra-Precise Dispensing (UPD) System

2D, 3D conductive micro interconnections:

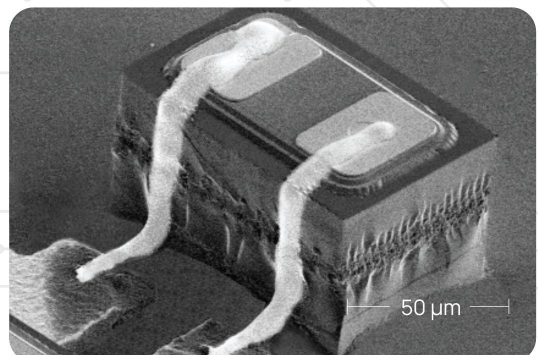
- open defect repair on complex technological substrates and system-on-the-chips
- conductive and insulating microvias in High Density Interconnect (HDI)
- ultra-high resolution features below 1 μm
- photonic sintering enables electrical resistances <1 Ω/μm
- variety of materials: conductive, dielectric, photoresist, QDots and more

State of the art Ag* sub-micron line





3D conductive micro interconnections - MicroLED

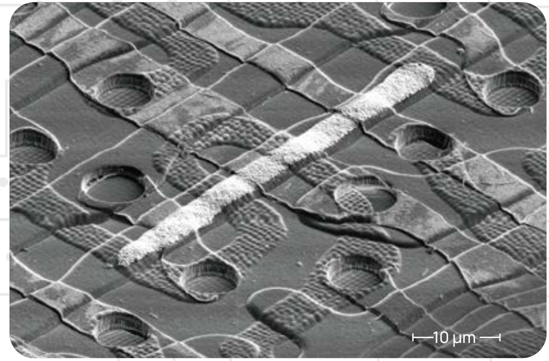


*XTPL Ag nanopaste CL85

Ultra-precise circuit editing:

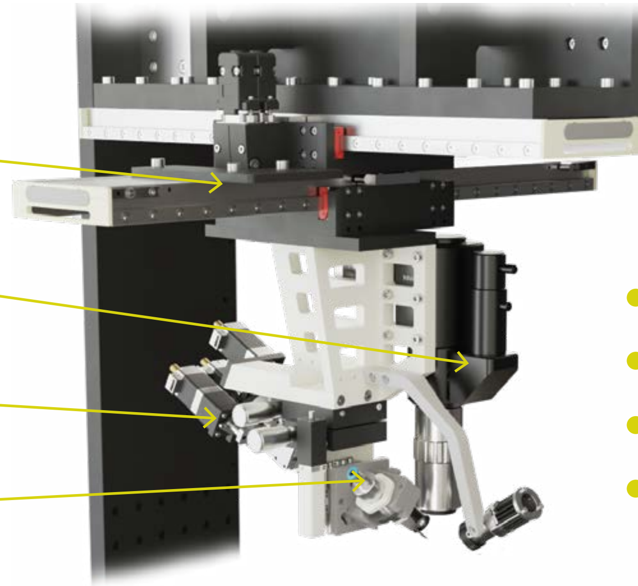
- fixing design flaws or intentional changes by local dispensing on 2D/3D connection
- via filling directly on the circuit
- versatile material dispensing on complex technological substrates

Ag* microline



UPD System overview

- High-precision XY axis motors
- Ultra-high resolution top-view microscopic optics and camera
- Motorized camera for real-time process monitoring
- Cartridge with nozzle in high-precision Z axis



Additional system elements:

- UPD process controller
- Precise pressure control unit
- UPD software
- UPD software API for integration with host system

Why should you choose UPD technology?

1. Patented technology, reliable partner and process for tailored industrial solutions.

1. PoC ⟶ 2. Solution tailoring ⟶ 3. Production ⟶ 4. Integration with host

2. Unprecedented range of feature size XTPL® UPD technology covers:

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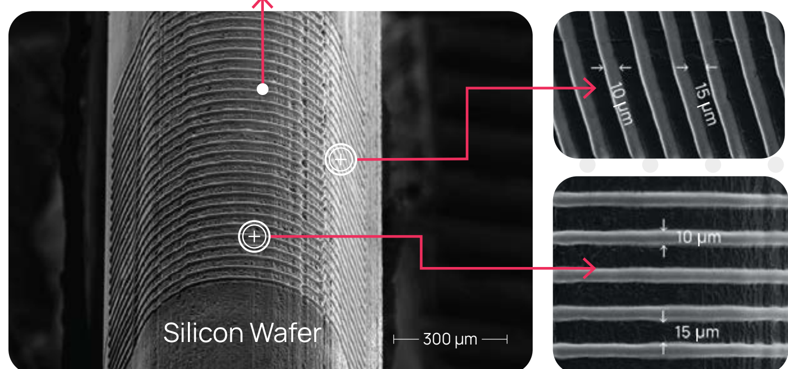
Revolutionize heterogeneous integration with Ultra-Precise Dispensing (UPD) System

Ultra-Precise Dispensing for integration:

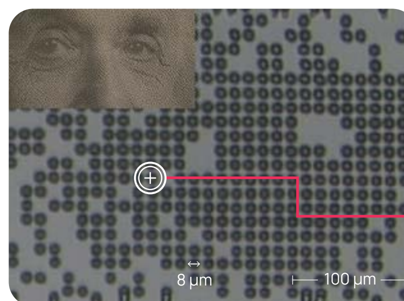
- facilitates seamless integration
- provides flexibility and miniaturization for FHE, IC packaging, IoT systems, antennas, biosensors and more

Ag* microlines on the edge

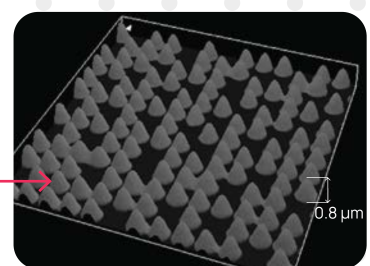


Precision-Driven Microbumps:

- controlled, precise dispensing of microbumps below 10 µm
- boosts performance in versatile scaling down of the IC packaging, system-on-the-chip designs



Ag* microbumps



*XTPL Ag nanopaste CL85

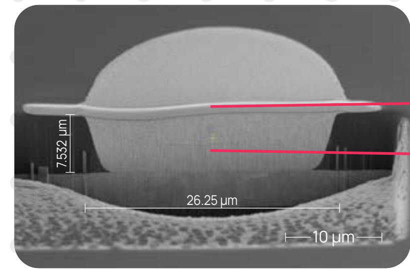
Reliable Connections via Filling:

- enables reliable connections, enhances thermal management and miniaturization
- enhances functionality and performance for advanced packaging, flip-chip and TSV
- variety of materials: conductive, dielectric, photoresist, QDots

Empty via

Filled via

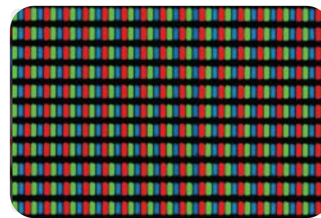
Via cross section



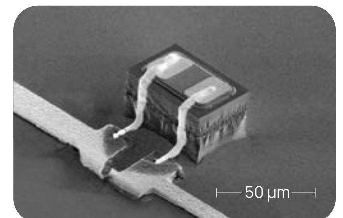
Powering MicroLED Integration:

- facilitates control, driving and power dispensing of microLED displays
- expands applications in AR/VR, smartwatches and automotive displays

MicroLED



Ag* interconnections



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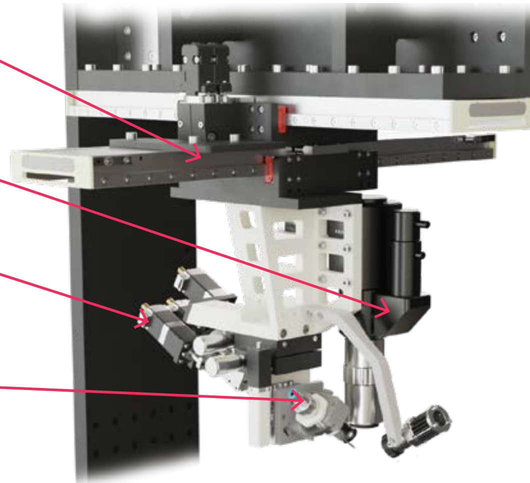

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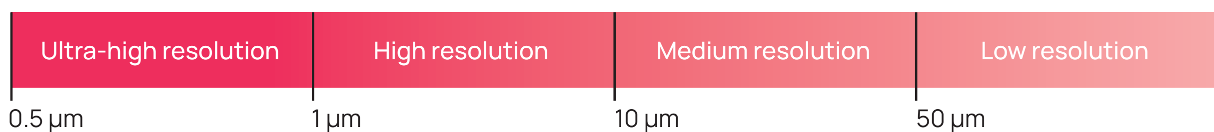

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