Precision Display Repair with HPCaP

Hummink's High Precision Capillary Printing (HPCaP) technology enables micron and sub-micron precision for advanced display repair applications. Designed for high-accuracy material deposition on complex and sensitive surfaces, HPCaP minimizes material waste while overcoming the limitations of conventional repair methods.

- Micron & sub-micron precision deposition
- Minimizes material waste vs. conventional methods
- Adapts to complex & sensitive structures
- Full process control & repeatability

Discover how HPCaP supports next-generation display repair with unmatched precision and versatility.

APPLICATION 01 **Display Panel Repair**

Industry Challenges

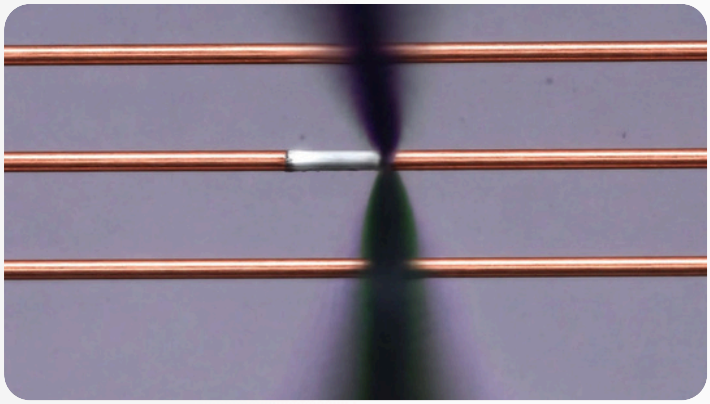
No capacity to repair open defects **< 5 µm** with conventional methods (CVD and printing)

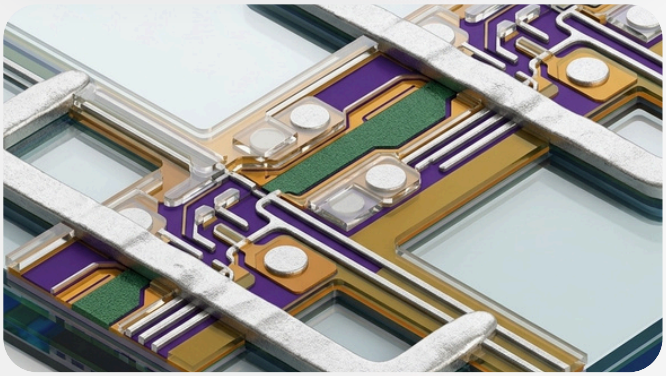
Solution with HPCaP

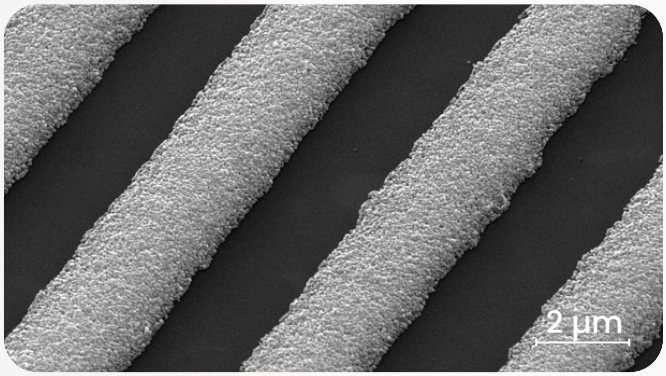
Local deposition at the micron scale with excellent electrical performance

Application Fields

- TFT layer repair
- Electrodes
- Color converter
- OLED, microLEDs, LCD, miniLEDs, QLEDs...







APPLICATION 02

Quantum Dots to Repair Displays

QNA

Industry Challenges

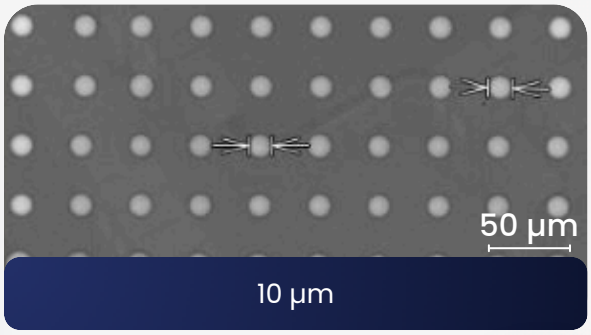
Raw quantum dots solutions are expensive: traditional lithography wastes material

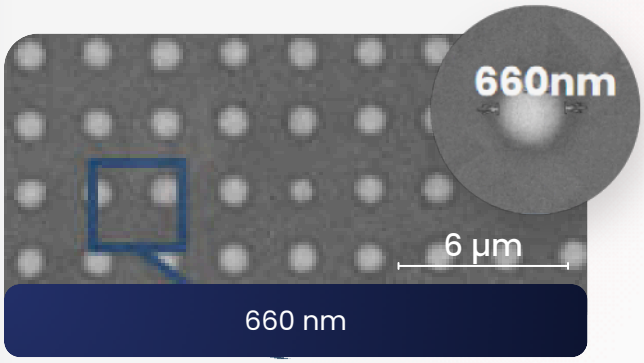
Solution with HPCaP

Controlled local deposition from tens of microns to sub-micron scale with minimum consumption for repair

Application Fields

- Color converter layer
- Wide range of resolutions (from sub-microns to tens of microns)
- Applicable from OLED TV to microLED





Work done with our partner, QNA Technology that provides PureBlue.ink QDs of the highest quality.

APPLICATION 03

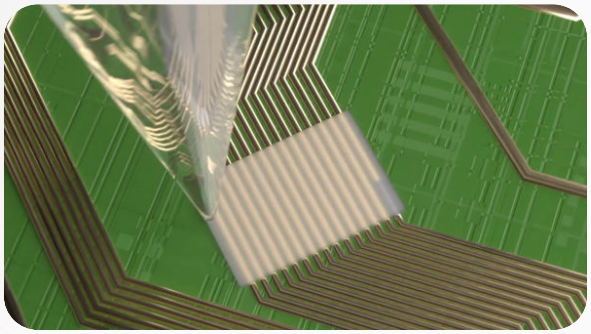
Polymer deposition and repair

Industry Challenges

- Silver traces oxidize and tarnish under humidity, degrading conductivity
- Repairing coated boards means stripping and recoating the whole assembly

Solution with HPCaP

- Precision polymer deposition passivates silver exactly where needed
- Local, in-place repair — no masking, no oven cure, no full recoat
- Possibility to fill cavities with polymer dielectric for planarization optimization



10 µm

About Hummink

Hummink is the exclusive developer and supplier of High Precision Capillary Printing (HPCaP), a patented technology enabling micron-scale material deposition for advanced electronics manufacturing. From R&D to industrial production, our integrated solution combines printing systems, intelligent software, and proprietary inks.

Already adopted by leading industrial and research organizations across Europe, Asia, and the US, HPCaP enables enables next-generation manufacturing and repair applications in displays, semiconductors, and advanced packaging. Learn more at www.hummink.com or follow us on LinkedIn.

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