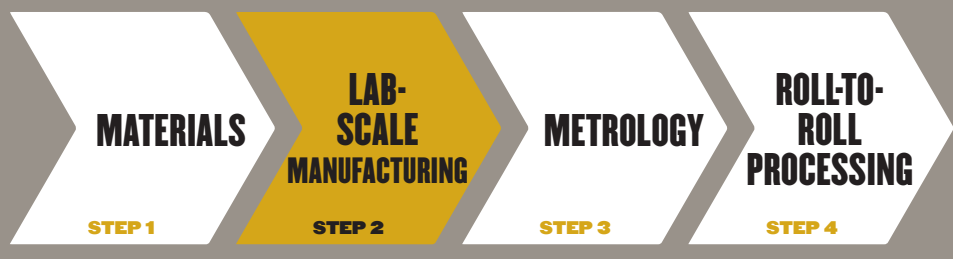


## PRINTING FLEXIBLE ELECTRONICS AT BIRCK NANOTECHNOLOGY CENTER



### BIRCK NANOTECHNOLOGY CENTER ROLL-TO-ROLL PROCESS



### OVERVIEW

Printing methods in the Birck Nanotechnology Center Roll-to-Roll laboratories are used to print conductive circuitry, biofluids, dielectric materials, and graphics on flexible substrates. These methods are used to create arbitrary patterns of commercial or experimental inks in resolution ranging from tens to hundreds of micrometers. Applications include conductive electrical circuits, electrodes, labels, and receptor molecules for sensors and other electronic devices.

### FUJI DIMATIX INKJET

- Experimental or commercial ink
- Print circuitry, graphics, biofluids.
- Design CAD and print same day.
- Flexible or rigid substrates up to 8.5"x11".
- Adjustable drop spacing. Min. resolution ~ 30  $\mu\text{m}$ .

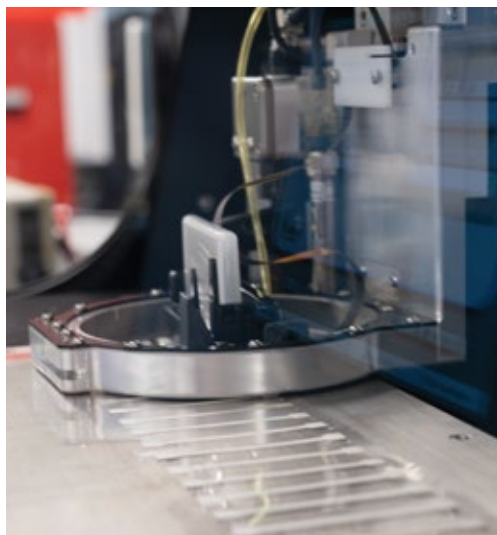
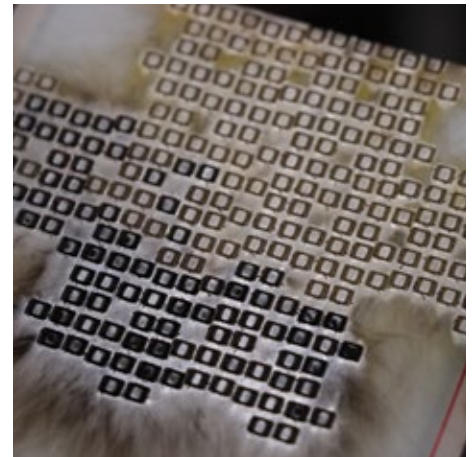
### MICRO PRINTING SYSTEMS TF-100 SCREEN PRINTER

- Print circuitry, carbon, dielectrics.
- Flexible or rigid substrates up to 6"x6".
- Min. resolution ~ 50  $\mu\text{m}$ .
- Higher conductivity than inkjet due to 10X deposited thickness.
- High speed repeat prints.



## PPSI ROLL-TO-ROLL INKJET

- Print circuitry, graphics.
- Up to 4 print layers / inks in one pass.
- Flexible substrates, up to 6" wide.
- Resolution: 300 dpi, ~45 $\mu$ m drop size.
- Design CAD and print same day.
- Up to 100 feet/min print speed.
- Demonstrate scale-up processing and print large volume.
- UV lamp or in-line laser raster cure. Laser singulation to cut CAD-defined shapes from a moving web or static sample.



## CONTACT INFORMATION

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