

Direct write printing is our core technology.

Micropen printing is the most precise and cost-effective way of printing fine lines of functional materials onto many different substrates: both 2D and 3D surfaces.



Challenge us with your application.

We can print it seamlessly, without swaging or glue; with precise conductivity; in virtually any size or shape; and on any substance.

Micropen.com

Direct-Write Sensors

Conventionally Embedded Sensors

| | Direct-Write Sensors | Conventionally Embedded Sensors |
|---------------------------|---|---|
| Design Flexibility | High | Limited |
| Miniaturization | High | Limited |
| Material Compatibility | High | Limited |
| Sensor Coverage | High | Limited |
| Customization | High | Limited |
| Integration | Seamless | Complex |
| Reliability | High | Moderate |
| Cost | Application dependent | Application dependent |
| Prototype Production Time | Fast prototyping | Slower prototypes |
| Applications | Complex geometries, flexible substrates, large-area sensing, custom designs | Standard form factors, rigid substrates, established sensor types |

We can print sensors, resistors, conductive materials, and radiopaque markers on any substrate!

Micropen capabilities

- Electronic printing
- Material formulation
- Supply chain management
- Assembly
- Testing and inspection
- Interconnection
- Wide latitude of materials:
 - Ag
 - Au
 - Pt
 - W
 - Dielectrics
 - Ceramics
 - Polymers
 - Biocompatible materials



Micropen Strengths



Flexible,
Expandable, or
Highly 3D Surfaces



Patterned Ink
Thickness



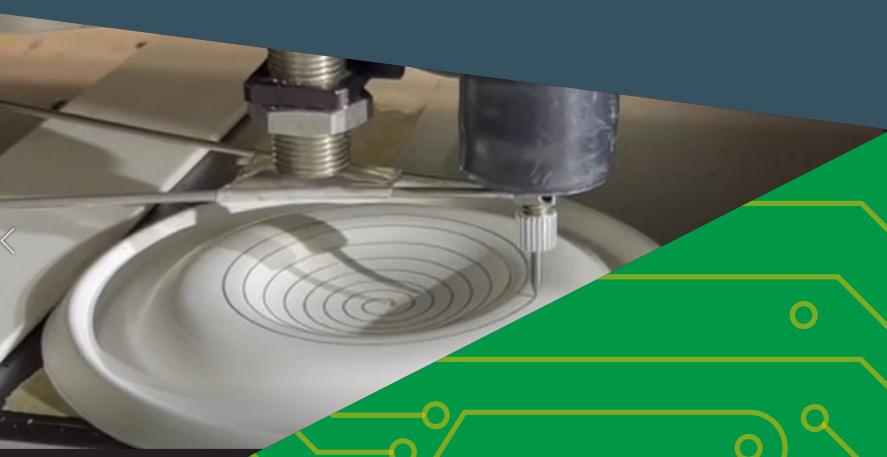
Fine Linewidths
and Spacing



Ink Waste Cost
Especially when using
expensive inks
(gold, silver, platinum)



Fast Prototyping



Consult us when you need a
better solution than...

- Screen Printing
- Pad Printing
- Inkjet/Aerosol Printing
- Applique Construction
- Subtractive Processes
- Metallization and etching



Micropen Certifications:

ISO 13485
AS9100D with ISO9001
RoHS and REACH compliant
FDA registration
ITAR registration

Contact Us:

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Exxelia Micropen

**Direct writing sensors
and conductive patterns
on any surface.**

Design, development, and manufacturing.



Micropen has printed sensors on these
and many more shapes and sizes!

Micropen industries:

- Medical
- Analytic
- Aerospace
- Defense

EXXELIA  MICROPEN