

# 'FORM TO FIT' FLEXIBLE SUBSTRATES FOR PRINTED ELECTRONICS

The logo for NORCOP, featuring the word 'NORCOP' in a bold, sans-serif font. The 'N' is blue, and the rest of the letters are purple. Below the word is the tagline 'SURFACES & INTERFACES TECHNOLOGY' in a smaller, blue, sans-serif font. The logo is set against a background of a printed circuit board (PCB) with various components and traces.

**NORCOP**  
SURFACES & INTERFACES TECHNOLOGY

By  
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*Keystone technology on which to build your masterpiece*

THE FUTURE...

WHAT?

HOW?

**NORCOP**  
SURFACES & INTERFACES TECHNOLOGY

TECHNOLOGY  
APPLICATIONS

WHY IT'S  
DIFFERENT?

ENVIRONMENTALLY  
FRIENDLY  
TECHNOLOGY

*Keystone technology on which to build your masterpiece*

THE FUTURE...

WHAT?

HOW?

**NORCOP**  
SURFACES & INTERFACES TECHNOLOGY

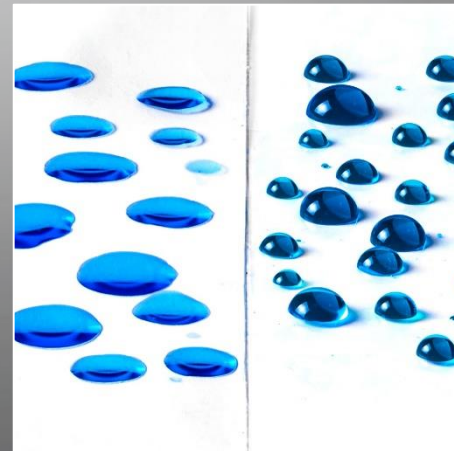
TECHNOLOGY  
APPLICATIONS

WHY IT'S  
DIFFERENT?

ENVIRONMENTALLY  
FRIENDLY  
TECHNOLOGY

WHAT?

- Fit to Form
- Surface functionalization
  - Physical (surface morphology)
  - Chemical (polarity)





HOW?

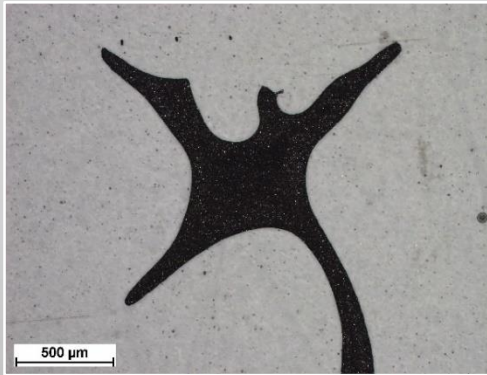


- AP-PECVD
- Large Scale
- Roll to Roll



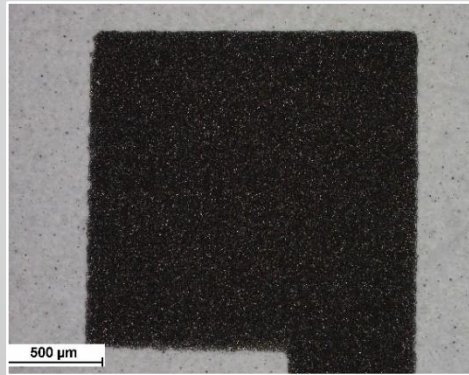
## WHY IT'S DIFFERENT?

- Customized surface for **screen printing** to match the physical and chemical properties of the conductive ink



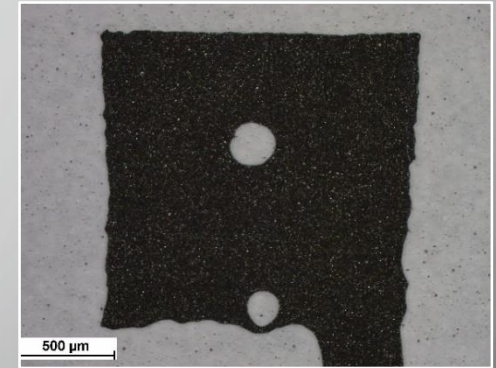
$SE = 21 \text{ mN/m} \ll ST$

Uneven Wetting



$SE = 35 \text{ mN/m} \sim ST$

Pin hole-free surface  
Precise edge definition



$SE = 43 \text{ mN/m} > ST$   
(untreated PET)

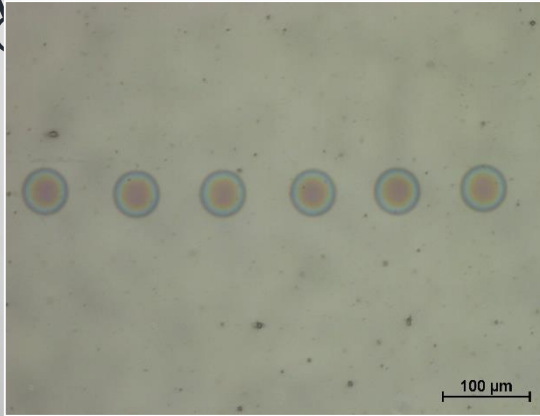
Pin holes  
Poor edge definition

*SE = Surface Energy of Substrate  
ST = Surface Tension of Ink*

\*images courtesy [ELORprintTech](#)

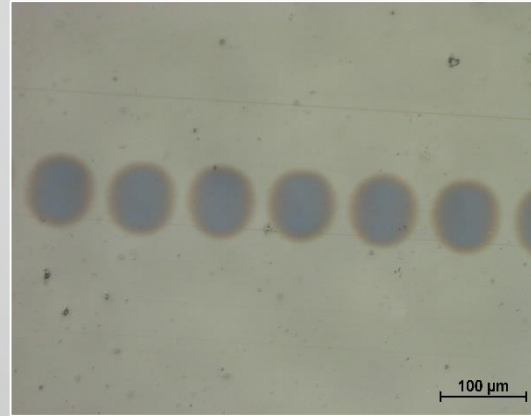
## WHY IT'S DIFFERENT?

- Customized surface for **ink-jet printing** to match the physical and chemical properties of the conductive ink (**organic???**)



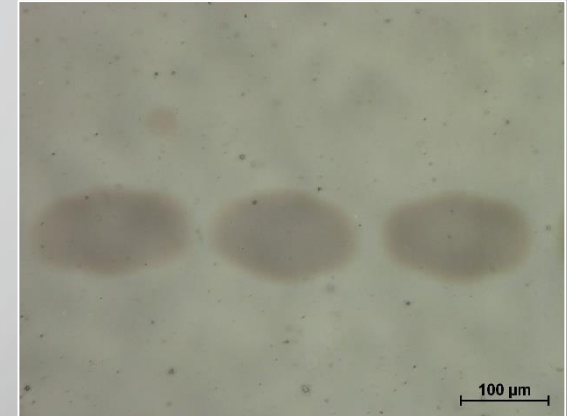
$SE = 21 \text{ mN/m} < ST$

Drops are retracted  
Uneven Wetting



$SE = 47 \text{ mN/m} \sim ST$

Precise contour  
Even Wetting



$SE = 50 \text{ mN/m} > ST$

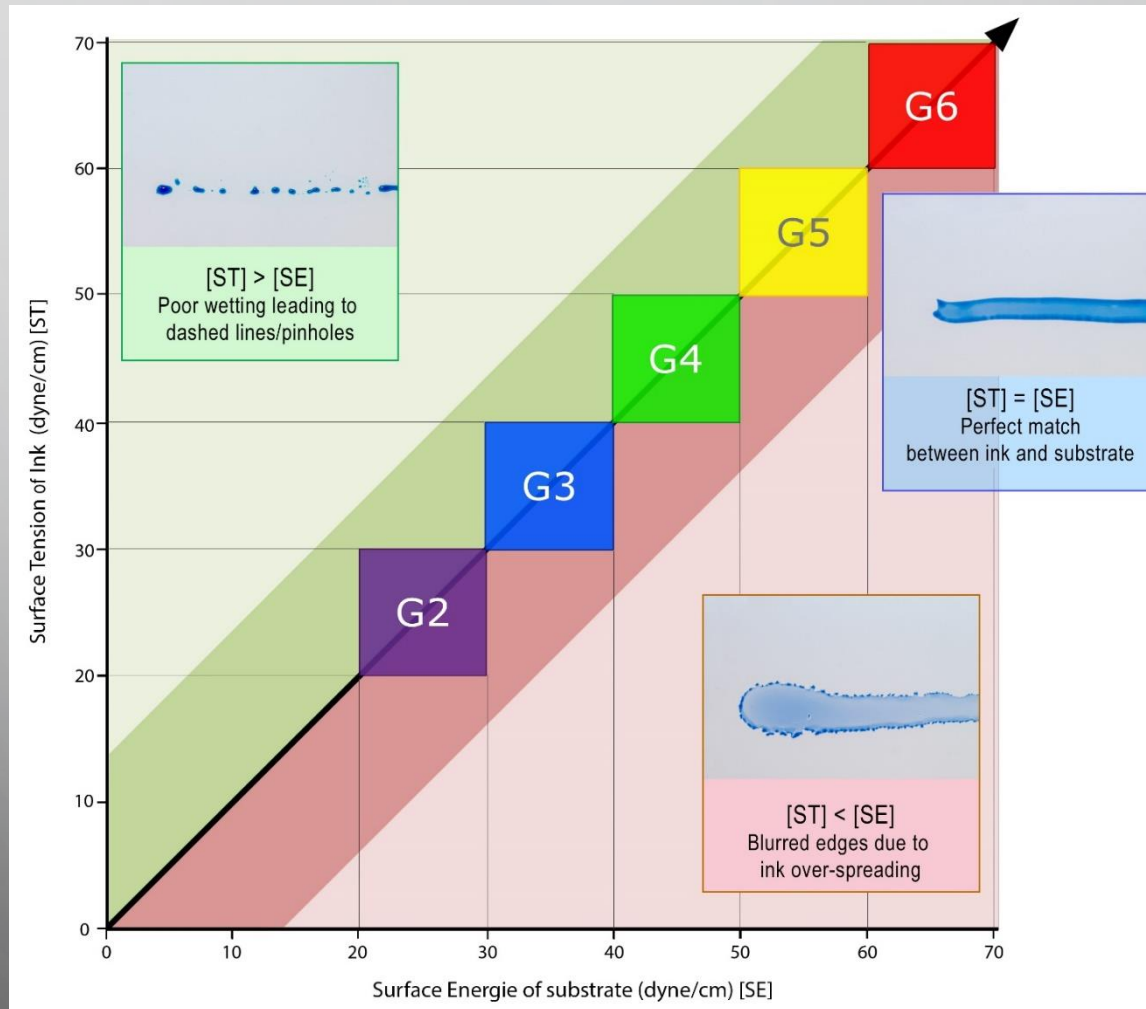
Drops over-spread  
and fuse  
Poor contour definition

*SE = Surface Energy of Substrate  
ST = Surface Tension of Ink*

\*image courtesy [ELORprintTech](#)

# WHY IT'S DIFFERENT?

- Our Matching Tool to help you choose the right substrate for your conductive ink





# ENVIRONMENTALLY FRIENDLY TECHNOLOGY



- Low energy requirement
- Small carbon footprint
- 5-10% of wet coating
- Zero heat
- No polluting by-products

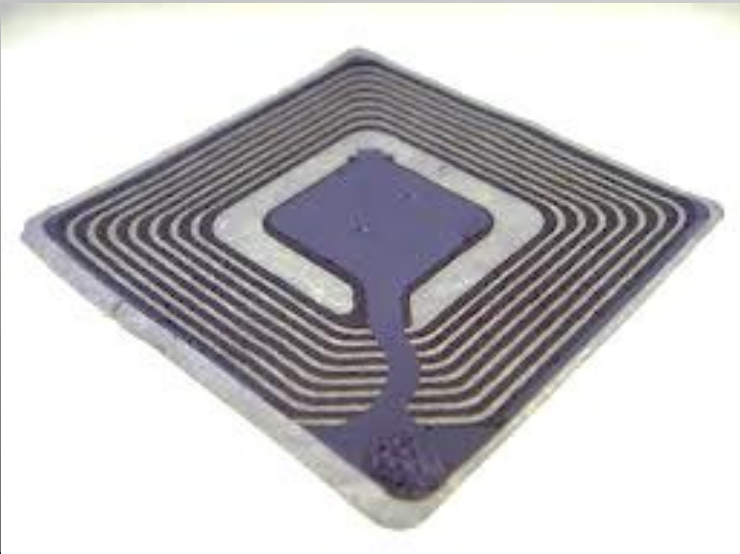
# TECHNOLOGY APPLICATIONS



Flat-panel Displays



Computer Keyboards

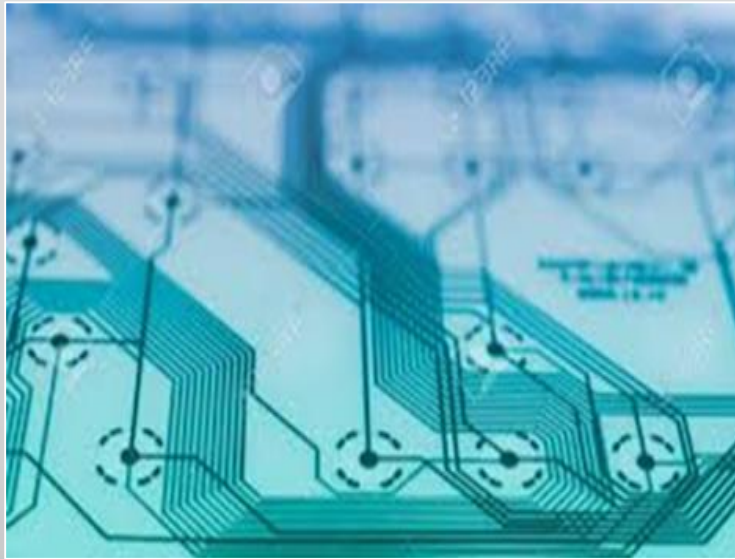


RFID Antennas

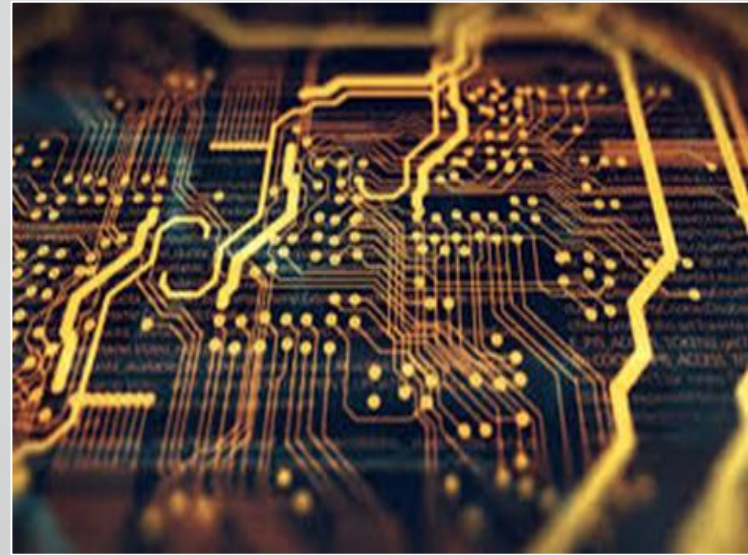


Contactless Credit Cards

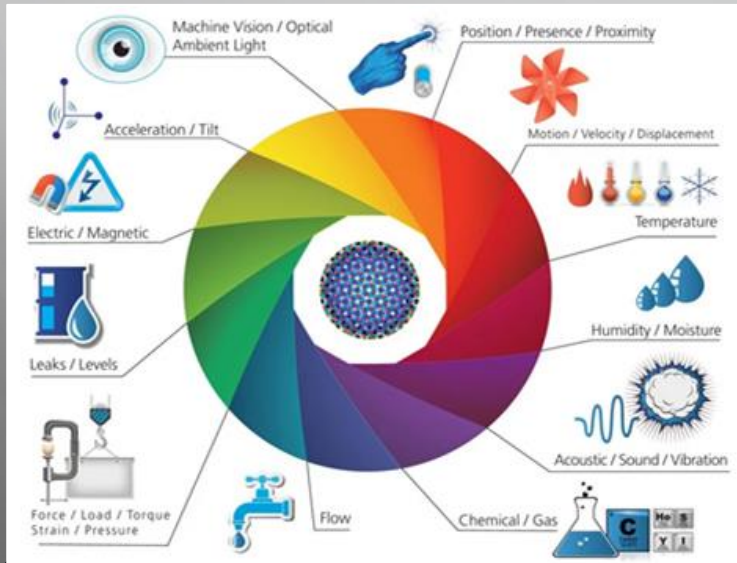
# TECHNOLOGY APPLICATIONS



Flexible PCB



5G EMI Shielding



Sensors at IoT



Transportation Navigation Systems



# THE FUTURE...



Flexible Organic PV



Electrical Vehicles



Energy Storage Facilities



Battery Stack

THANK YOU



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