



MULTEK

**Enabling Smart and Connected Living through High Volume
Roll to Roll Manufacturing**

LOPEC 2017: Business Conference

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Director of Innovation and Technology

CONFIDENTIAL

Multek is a wholly owned subsidiary of Flex



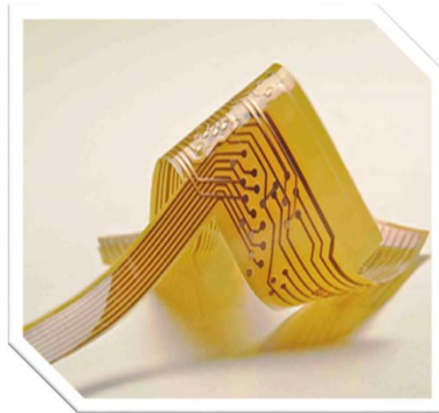
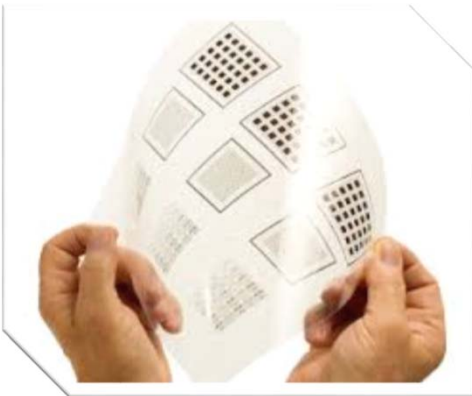
Smart and Connected Living



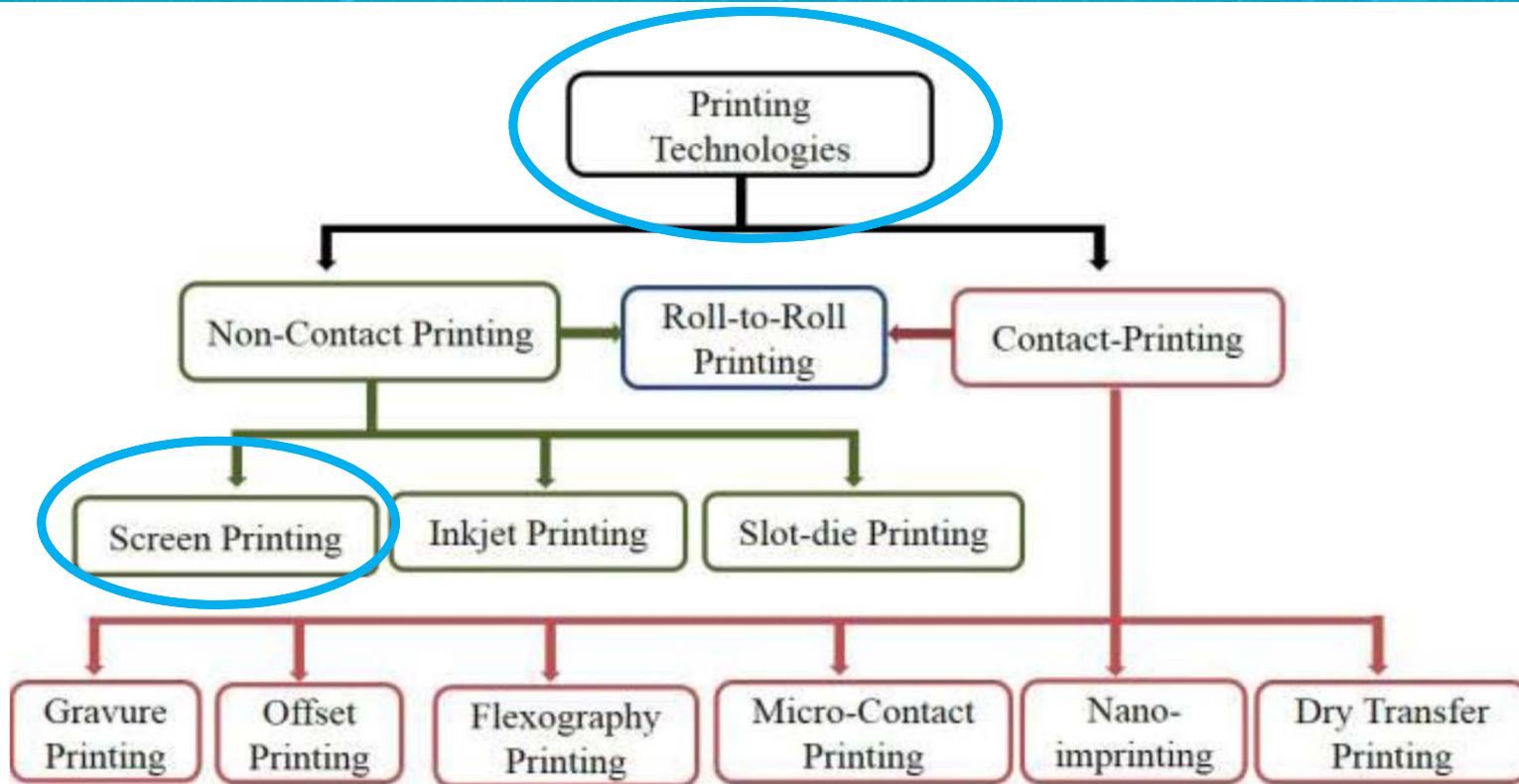
Flexible Printed Electronic Solutions

Flexible Printed Electronics are intrinsically light-weight, pliable, formable, bondable, bendable, foldable, and stretchable. They can be populated with components and assembled by a number of methods.

To meet end-user requirements they also need to be reliable, rugged, wearable, durable and cost effective.



Available Printing Technologies



Ref: Technologies for Printing Sensors and Electronics over Large Flexible Substrates: A Review.
IEEE Sensors Journal, Volume 15, No. 6, June 2015

Relevant Markets for Flexible Printed Electronics

Automotive



HMI
Steering
Doors
Windows
HVAC
Authentication
Lighting

Medical & Wellness



Active Patches
Wearable Sensors
Medical Devices
Diagnostics
Wellness monitoring
Implantables

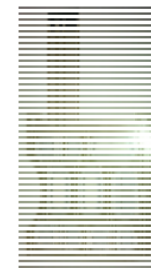
Energy & Consumer



Printed Batteries
Energy Harvesting
Authentication
Smart labels
Printed Antennas
White Goods
RFID

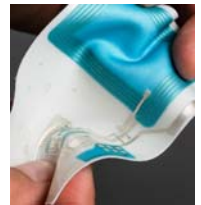
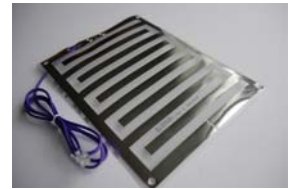
Multek: Examples of Printed Electronic Solutions for Automotive

Delivering Embedded Responsive solutions in 3-D surfaces with required Haptic and/or Tactile response.



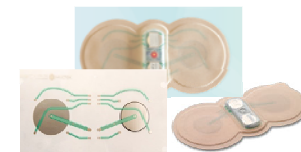
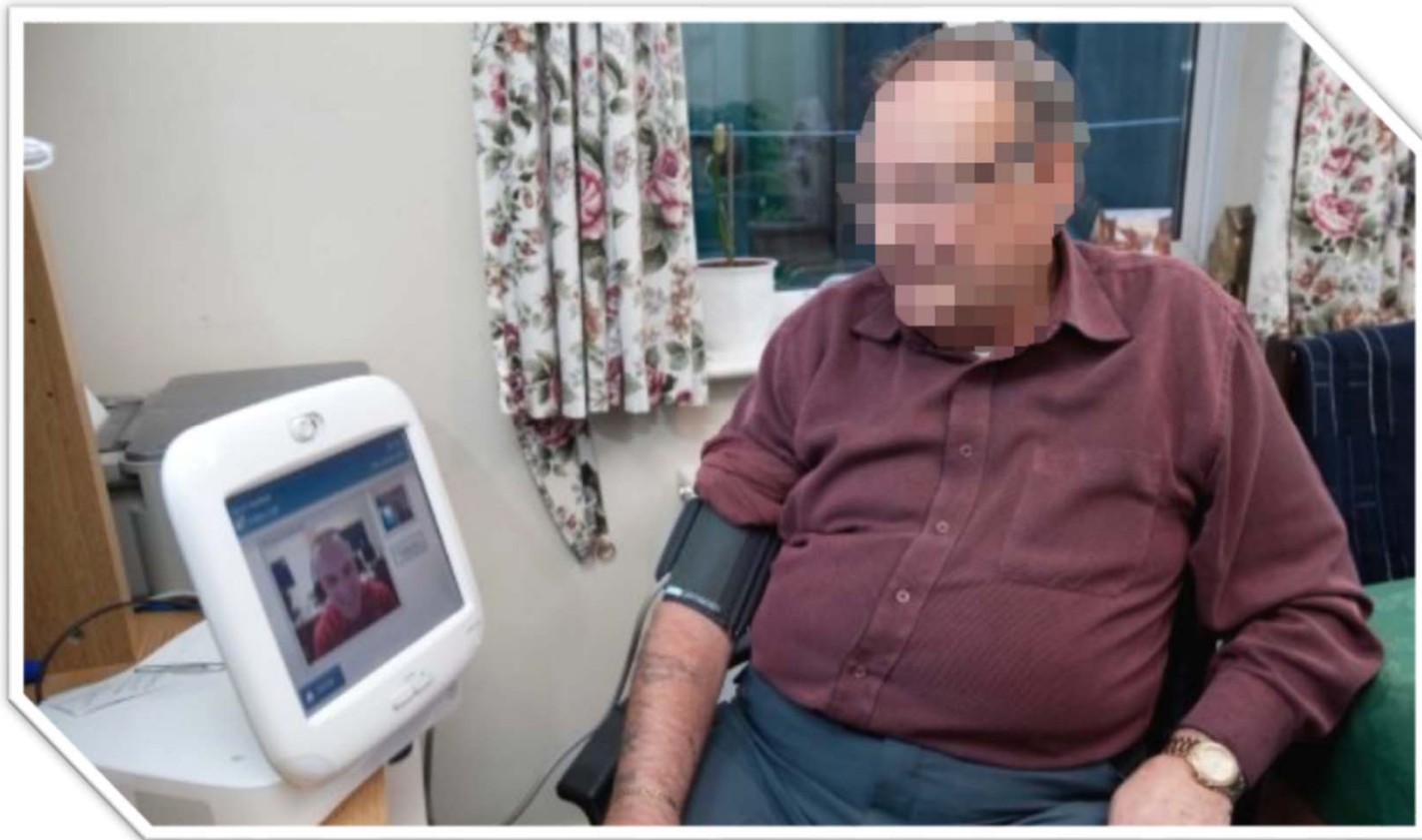
Multek: Examples of Printed Electronic Solutions for Wellness

Delivering Embedded Responsive solutions in soft surfaces with required connectivity.



Multek: Examples of Printed Electronic Solutions for Medical Wearables

Delivering reliable wellness solutions in breathable, wearable form.



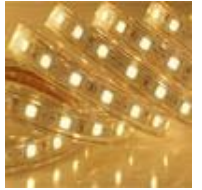
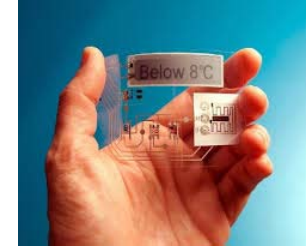
Multek: Examples of Printed Electronic Solutions for the Home

Delivering connected electronics to enable smarter living



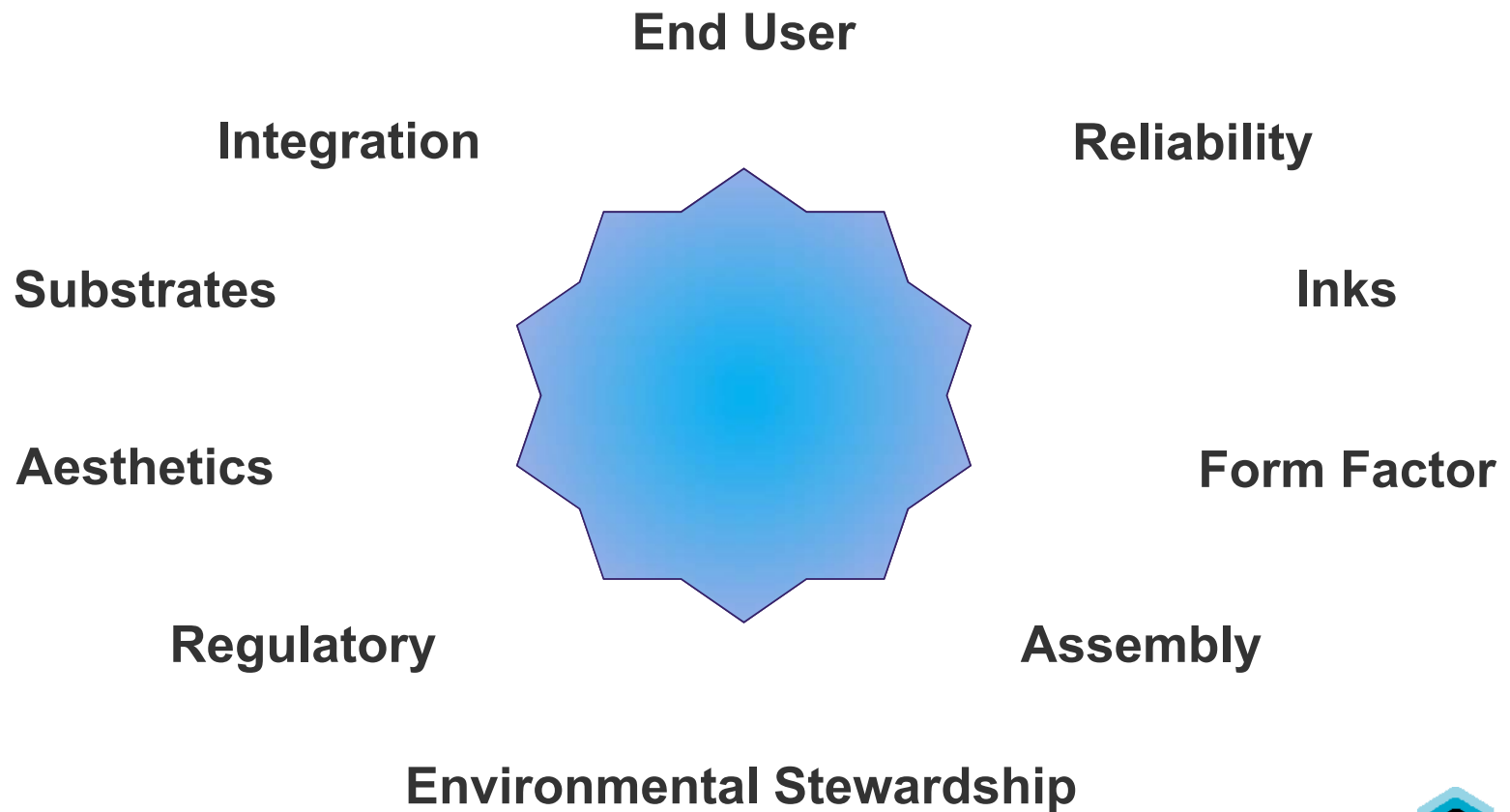
Advantages and Advances: Roll to Roll Screen Printing

- ✓ Large format
- ✓ Multi-layer printing
- ✓ Optical Registration*
- ✓ Fine-line Printing*
- ✓ Multiple Ink types*
- ✓ Multiple curing/drying regimes*
- ✓ Wide variety of base substrates
 - ✓ Type*
 - ✓ Thickness*
- ✓ Long circuits (Step & Repeat)
- ✓ Roll to Roll inspections and e-test
- ✓ Conventional assembly
- ✓ Roll to Roll assembly options*



**Recent and Ongoing Advances*

Optimizing Wants & Needs



Multek Flexible Printed Electronics

As the world shifts to even more connectivity, Screen printed, Automated, Roll-to-Roll, Printed Electronics will continue to provide high volume, cost effective solutions.

Delivering strong, reliable performance while meeting the industrial designers' requirements for 3D surfaces.



From Sketch to Scale

.... Or from Slide Tech to Real Tech!



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Thank –You!

