

# Hybrid Electronics Architecture Opportunities

Girish Wable

**GREEN  
POINT**  
A JABIL COMPANY

**JABIL**  
PACKAGING SOLUTIONS

**JABIL**  
ENTERPRISE & INFRASTRUCTURE

**NYPRO**  
A JABIL COMPANY

**JABIL**  
ENGINEERED SOLUTIONS GROUP

**Our  
Markets**



**Our E2E Offerings**



**Our Digital Engine**

**The Digital Thread: Jabil's Intelligent Digital Platform™**  
THE DATA AND CONNECTIVITY THREAD THAT MAKES JABIL FAST AND EFFICIENT ACROSS THE ENTIRE PRODUCT LIFECYCLE

**Our Top Engineering Capabilities**

- Acoustics
- Additive Manufacturing
- Adhesives
- Advanced Assembly
- Automation
- Dynamic Tuning
- Emerging Markets
- Experience Design
- Fluidics
- Human Machine Interface
- Intelligent Digital Supply Chain
- IoT
- IT Cyber Security
- Materials Technology
- Miniaturization
- Optical Communications & Networking
- Optics
- Power Engineering
- Precision Injection Mold Tooling
- Precision Mechanics
- Printed Electronics
- Sensors
- Smart Clothing
- Test Engineering
- Value Engineering
- Wireless Connectivity

**Our Difference**

**PEOPLE**  
OUR INGENUITY & ENTREPRENEURIAL CULTURE

**PORTFOLIO**  
UNMATCHED COLLECTION OF TECHNOLOGY & ENGINEERING CAPABILITIES ACROSS 14 SECTORS

**DIGITAL**  
OUR DIGITAL PLATFORM, CONNECTIVITY & DATA BASED APPROACH

**VALUES**  
AWARD WINNING SOCIAL & ENVIRONMENTAL RESPONSIBILITY PROGRAM

**BUSINESS**  
Unique SECURE WORK-CELL MODEL PROTECTS REPUTATION, BRAND & IP

**Our Ability to Scale & Execute**  
**JABIL**

<b>170k</b> EMPLOYEES	<b>101</b> PLANTS GLOBALLY	<b>17,000</b> SUPPLIERS	<b>50 YRs</b> EXPERTISE	<b>1,600</b> CAPABILITIES	<b>250</b> TOP BRANDS	<b>18b/1.2b</b> REVENUE/OCF
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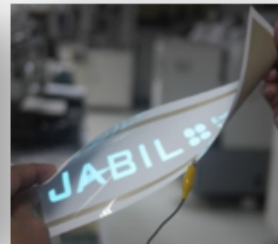
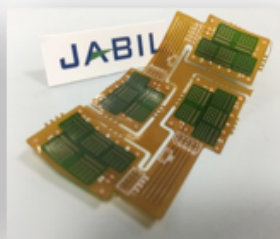
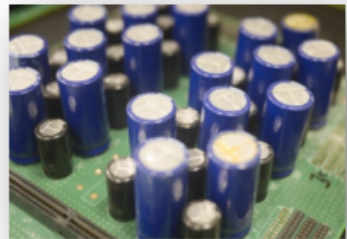
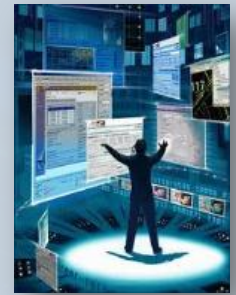
# Discrete to Integrated Assembly Human Machine Interface

**JABIL**





# Evolving Design Complexity & Integration



Ref : householdappliancesworld



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# Assembly - Today

Gerber Design  
Touch, LED, Power,  
Controls

PCB

Complex SMT  
Placement/Test

Illustrator Design  
Graphics

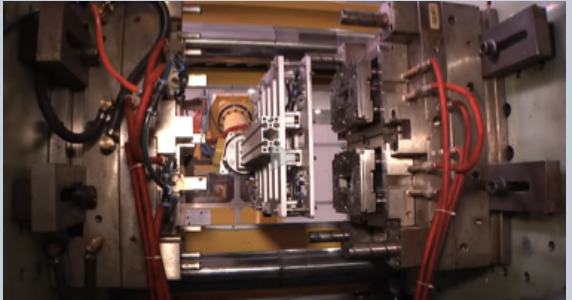
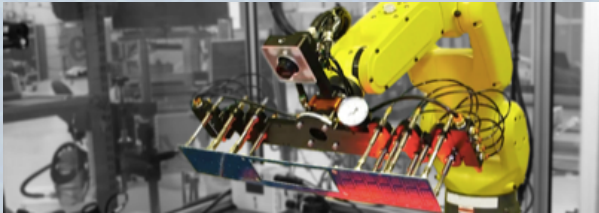
Icon Graphics Label

Graphics Label  
Injection Molded @  
Facility 2 or 3

Multiple SKUs  
Languages  
Colors  
Button Locations



Integrate PCBA, Light Guides and  
Injection Molded Part at High Volume



# Assembly - Tomorrow

Integrated Design  
Graphics +  
Power, Controls,  
Touch, LED

Multiple  
Languages  
Colors  
Button Locations  
SMT Pads

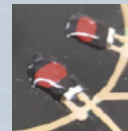
Icon Graphics Label



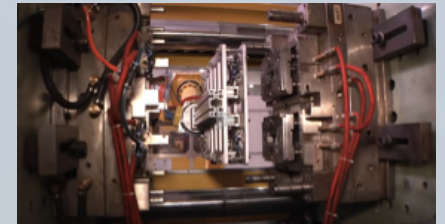
PE Label



Add FHE/LED/Test



Integrated Label  
Injection Molded



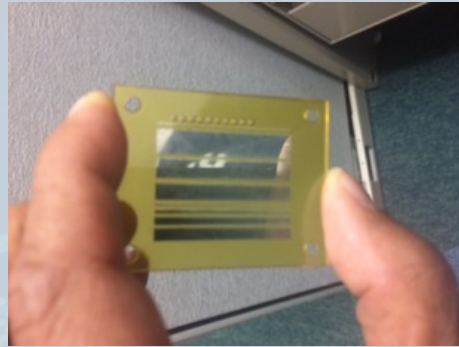
# 3d Printing - Rigid to Flexible Hybrid Electronics

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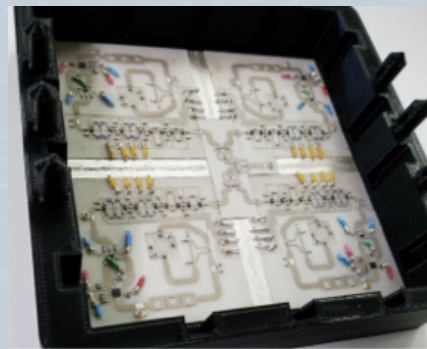




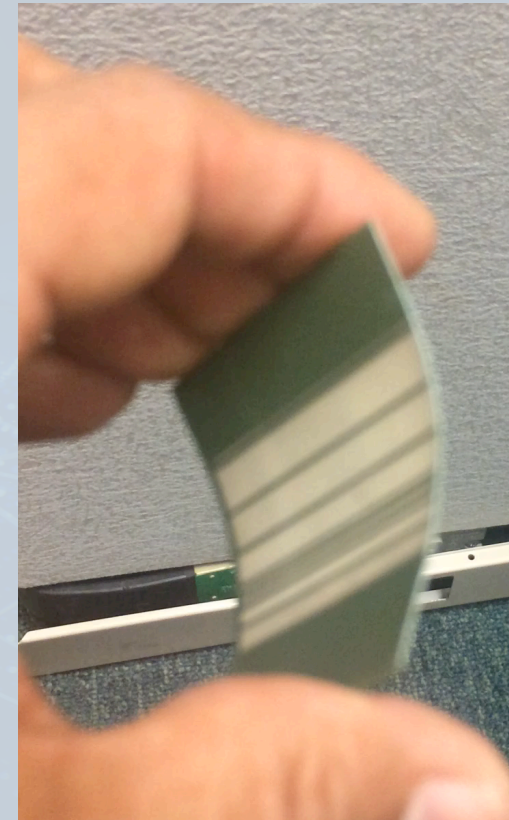
# 3d Printing – Traces to PCBs



3d Printed 3d Shape (Phone Cover)



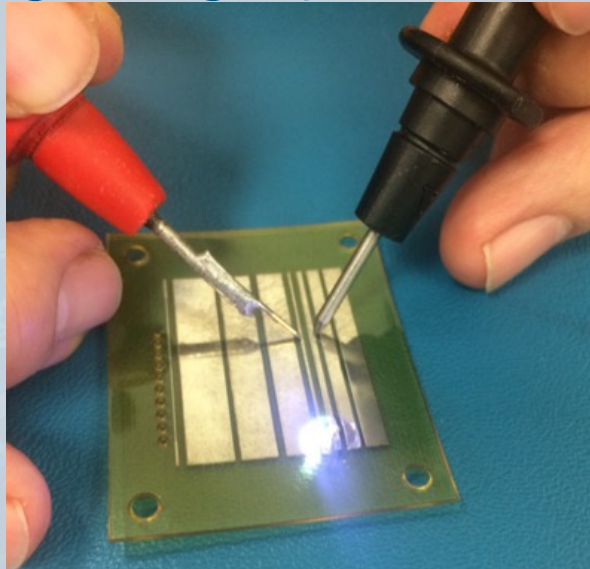
3d Printed Flat Shape (single/multi layer PCB)



3d Printed Flexible Shape (PCB)

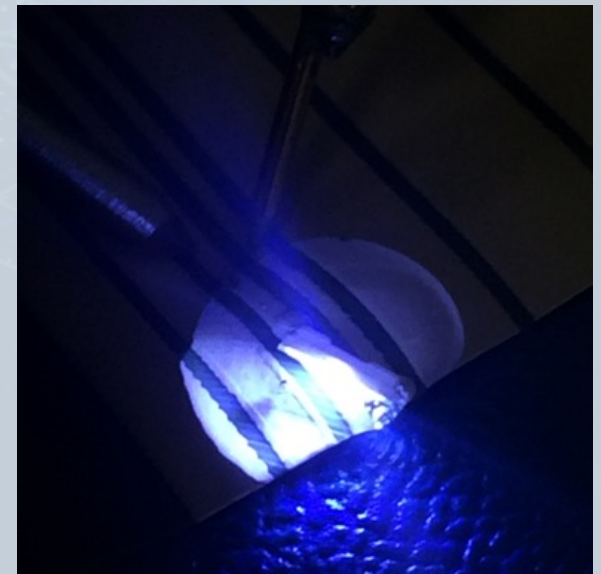
# 3d Printing – Integrating Hybrid Electronics

3d Printed 3d Shape (Phone Cover)  
+ Rigid Hybrid Electronics



3d Printed Flat Shape (PCB)  
+ Rigid Hybrid Electronics

3d Printed Flexible Shape (PCB)  
+ Rigid Hybrid Electronics



Thank You girish\_wable @jabil.com

