

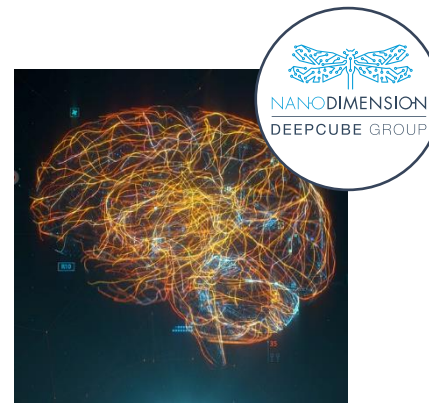


E&A 2023

Improve Time to Market and Optimize Processes with
All-in-One Paste Jetting & Component Placing Solutions

Nano Dimension Portfolio

Essemtec - Part of Nano Dimension



- **DragonFly:** Additively Manufactured Electronics
- **Fabrica Group:** Micro-AM solution for micron-resolution mechanical parts and manufacturing
- **Essemtec:** Adaptive, highly flexible SMT equipment, micro-dispensers, and intelligent production material logistics systems
- **Global Inkjet Systems:** Leading developer and supplier of software, drive electronics and ink system components

Driven by
DeepCube Group: Deep Learning software embedded in printers and systems for realtime self-learning and correction

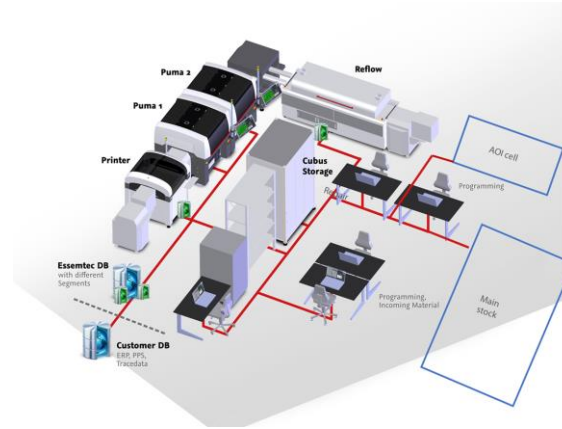
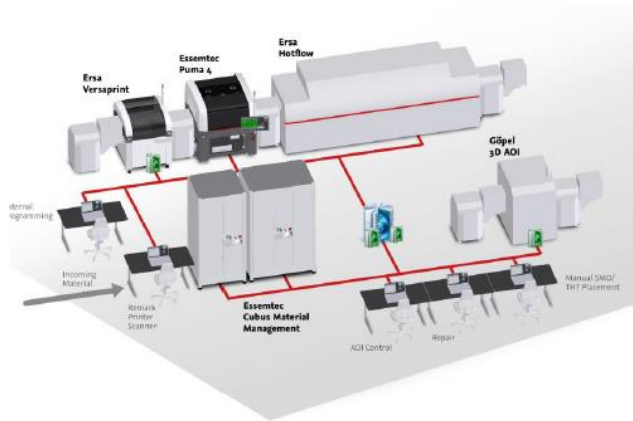
essemtec
A NANODIMENSION DIVISION

smd • tec

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Essemtec Solutions

High-Mix Low-Mid Volume With Multiple Machine



- Feeder space
- All in one Archerfish
- Software friendly
- Factory concept
- Turtle – Rabbit concept



A person is shown from the side, wearing a plaid shirt, typing on a laptop. The scene is set outdoors at sunset, with the sun low on the horizon over a body of water, creating a warm, golden glow. The laptop screen is open, and the person's hands are visible on the keyboard.

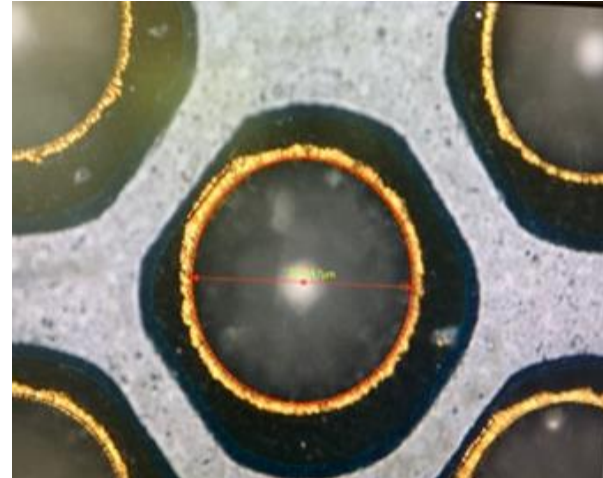
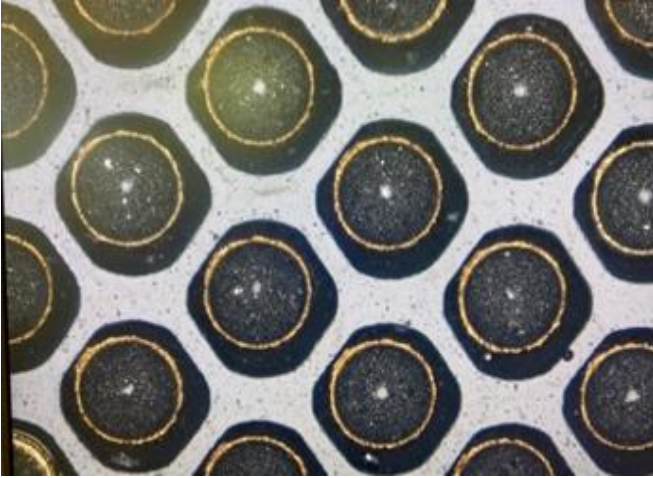
our focus - your solution.

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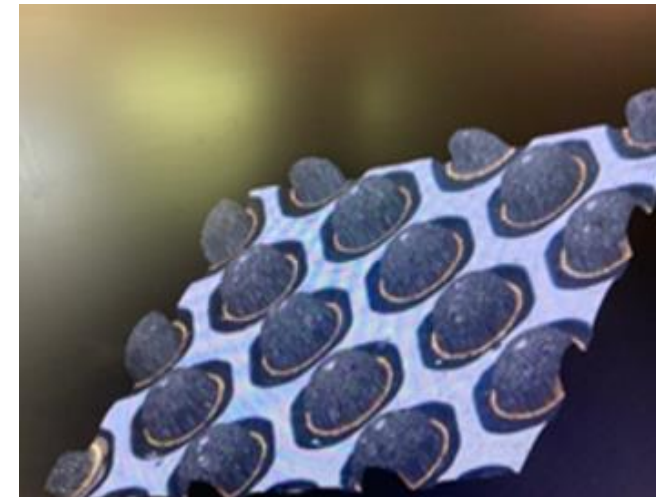
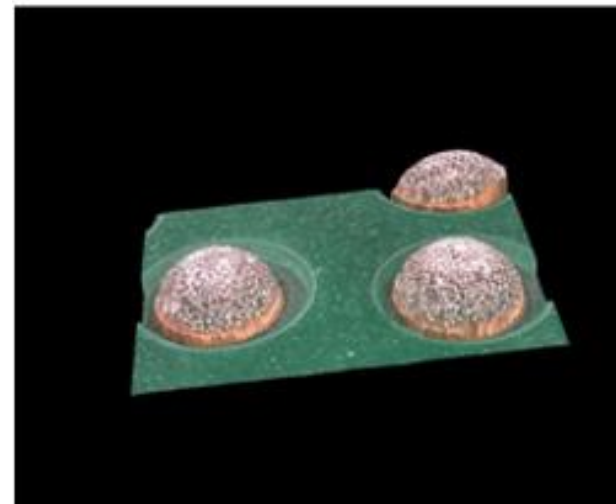
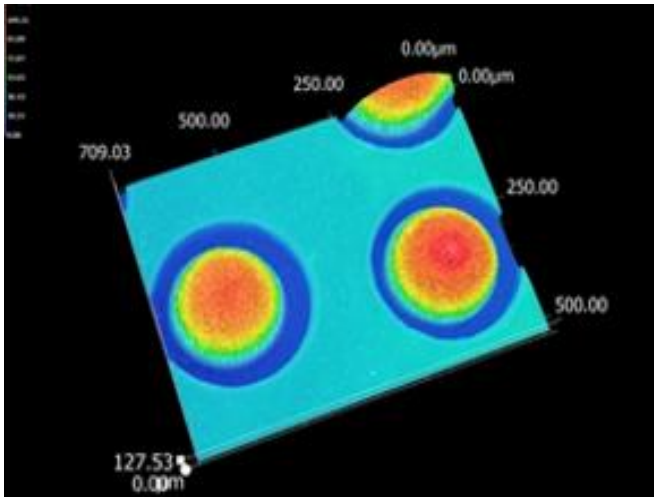
smdtec

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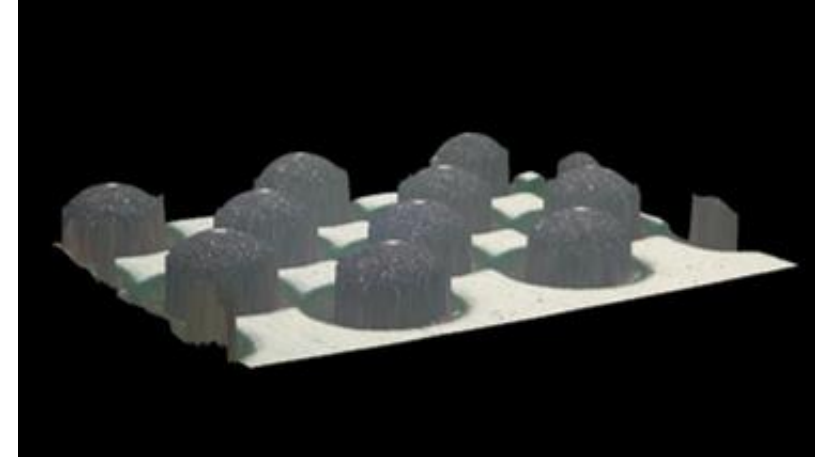
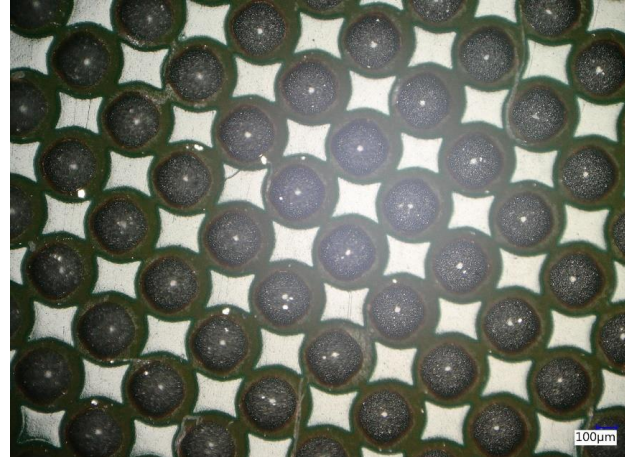
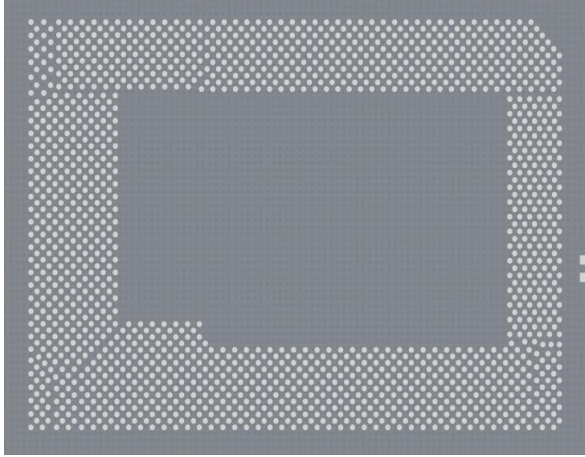
Solder Paste - Small dots



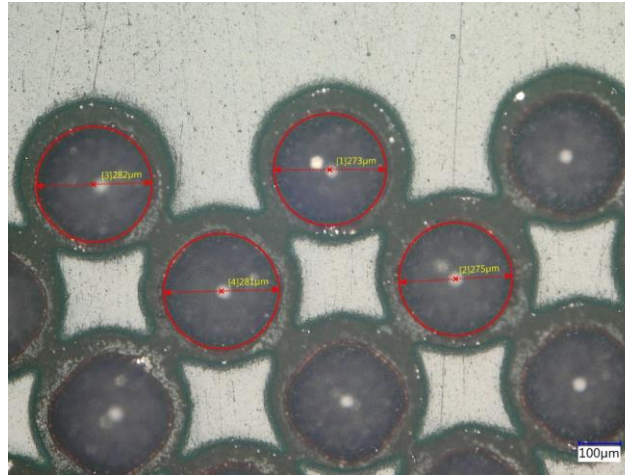
275um
dots



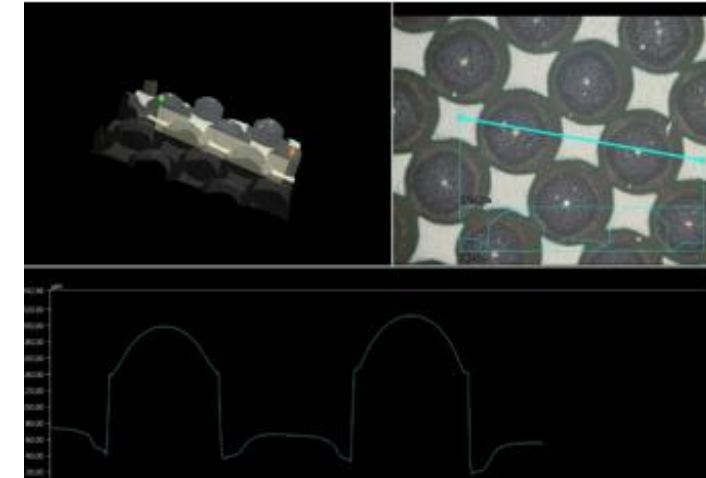
BGA Dispensing - Rework



Special Nozzle

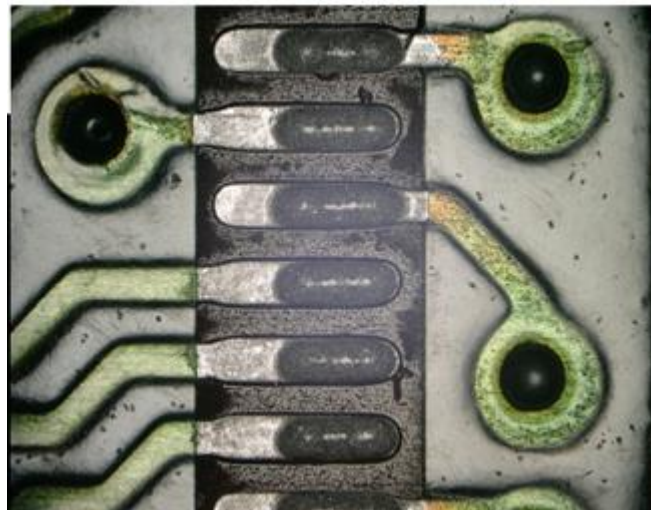
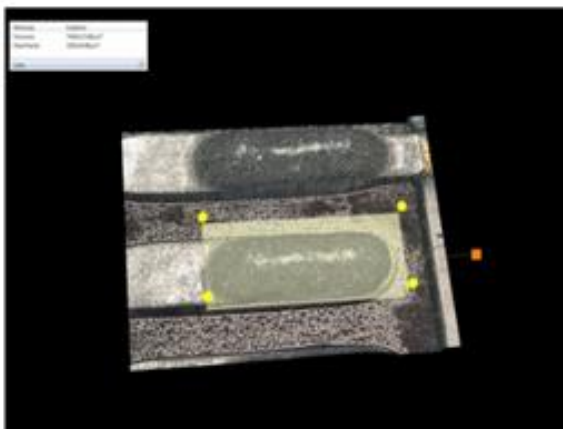
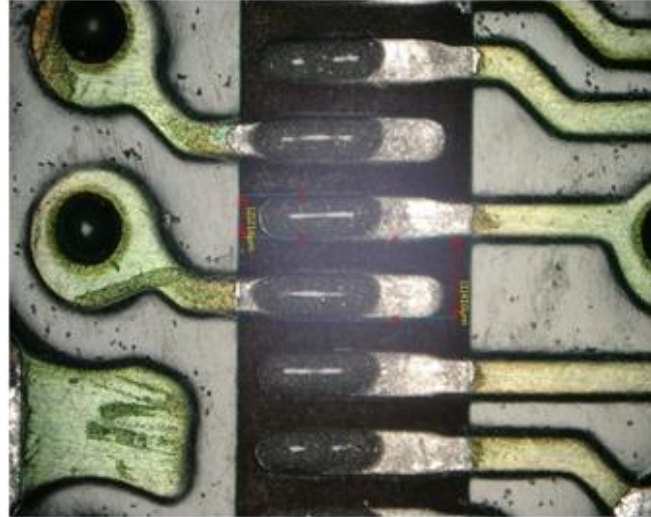
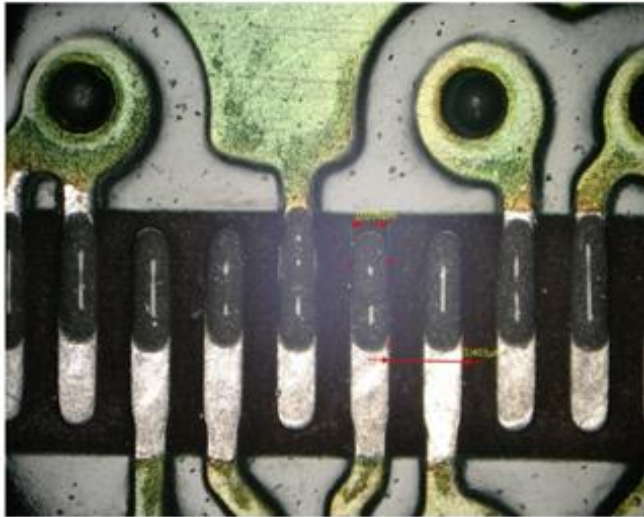


275µm
dots



Fine Pitch

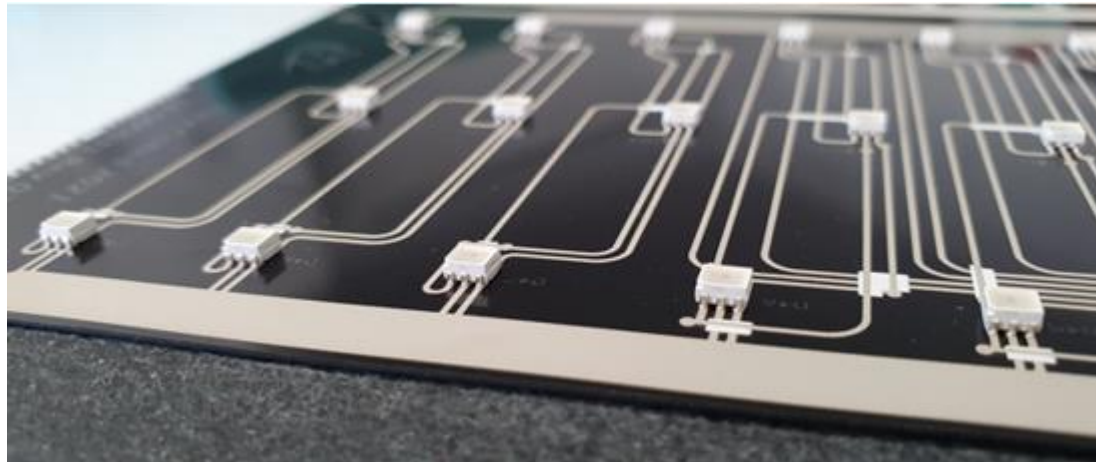
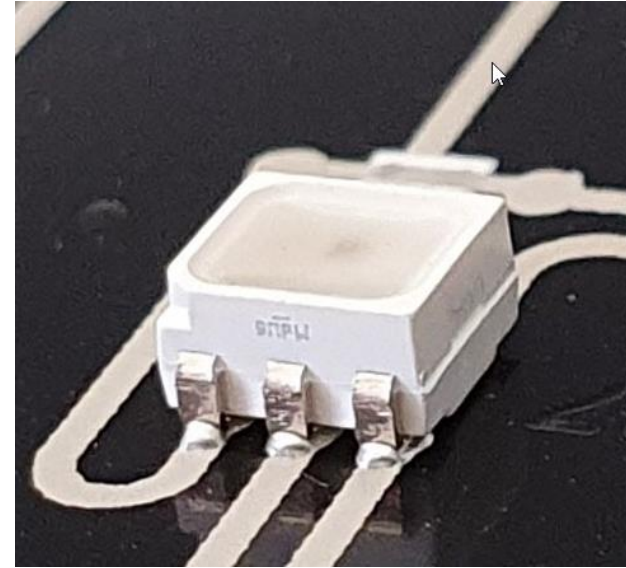
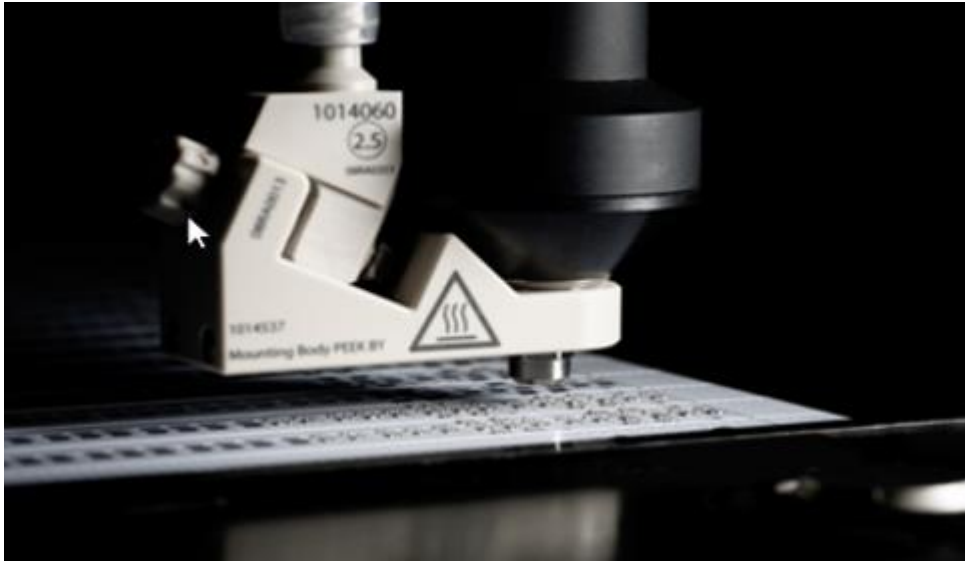
0.4mm fine pitch



Repair Application



Flexible Surfaces Applications - LED

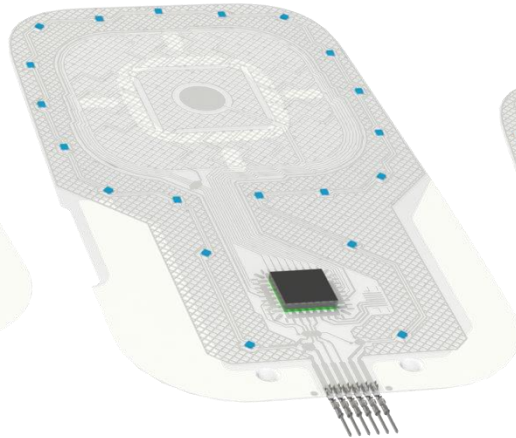


Printed Electronics

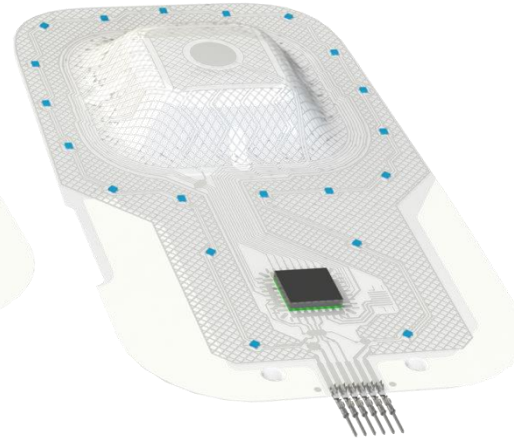
Steps using IMSE technology



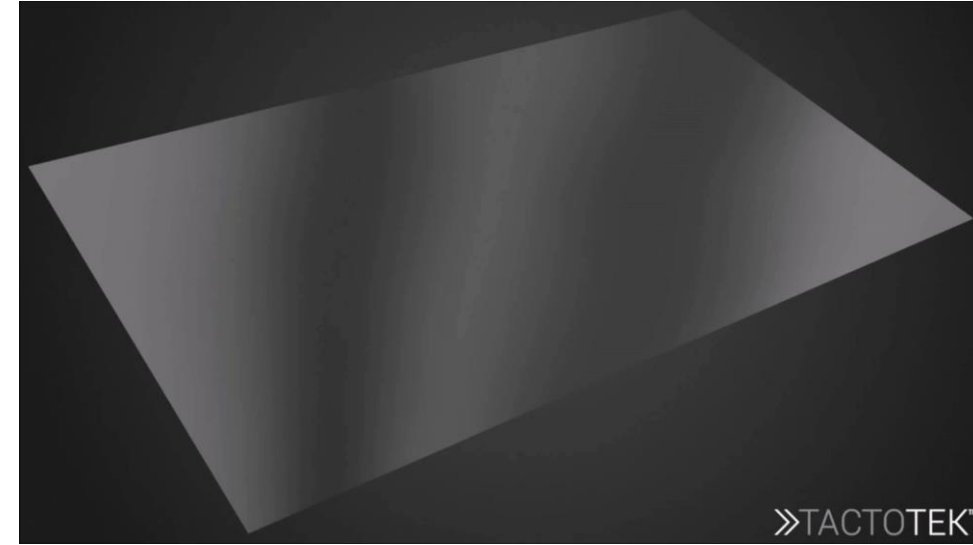
1.
Print decoration and
electronics



2.
Mount components
on **flat** film



3.
Form 3D shape
with components



»TACTOTEK™



4.
Injection mold final
single, seamless part

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Printed Electronics Applications

Illuminated
Boarding



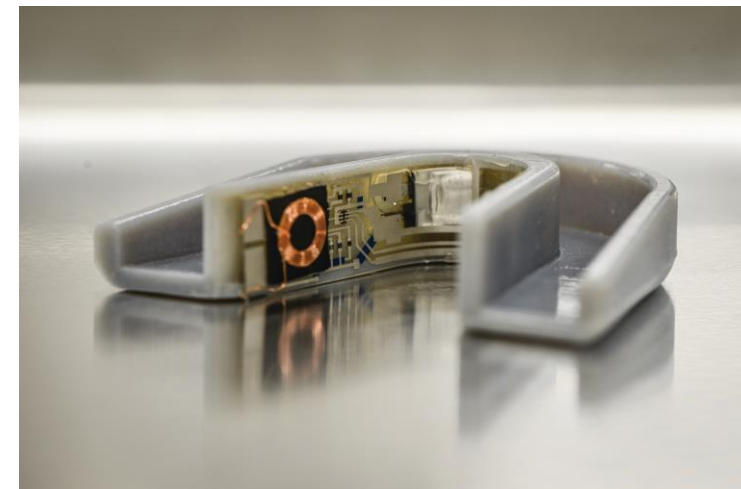
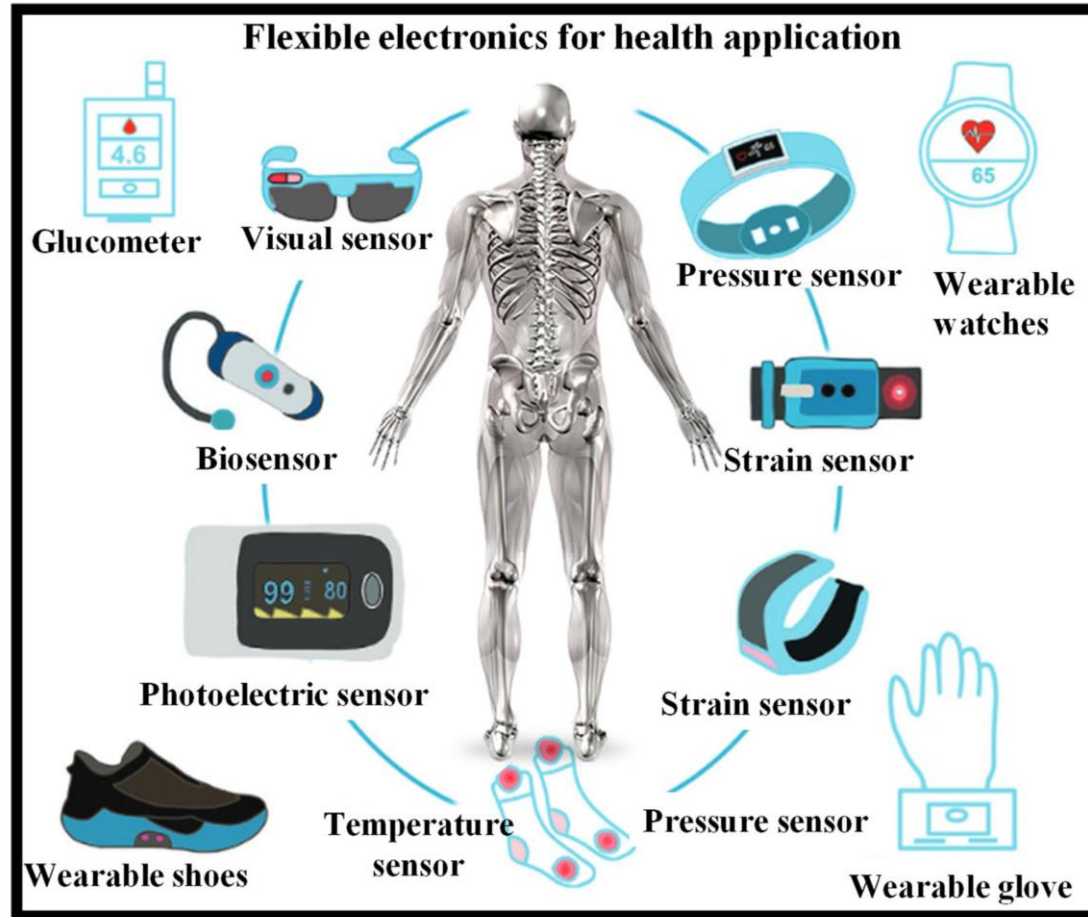
Clean, Bright
Disinfecting
Surfaces

Room Seating



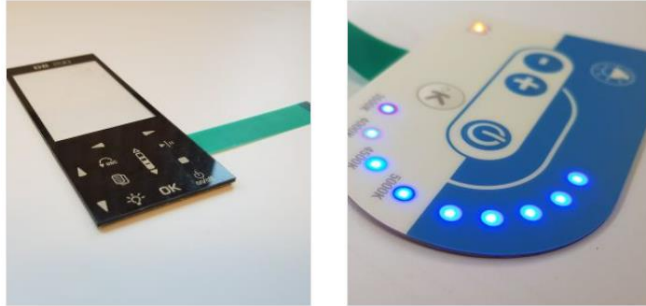
Source: Airbus

Printed Electronics In Healthcare

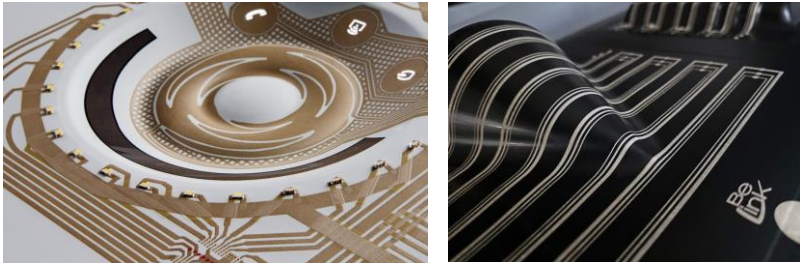


Customers references - Printed Electronics

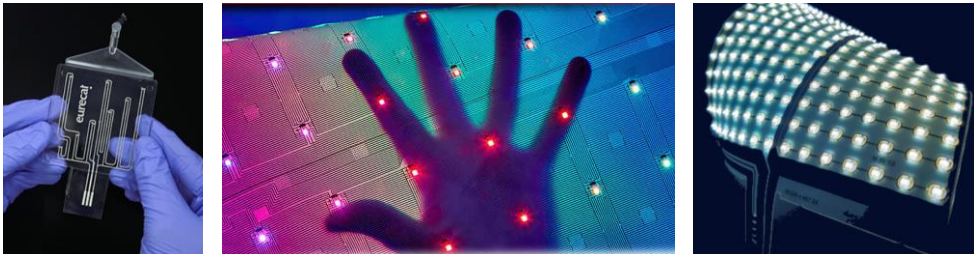
Flexible keyboards



IMSE and Smart Surfaces

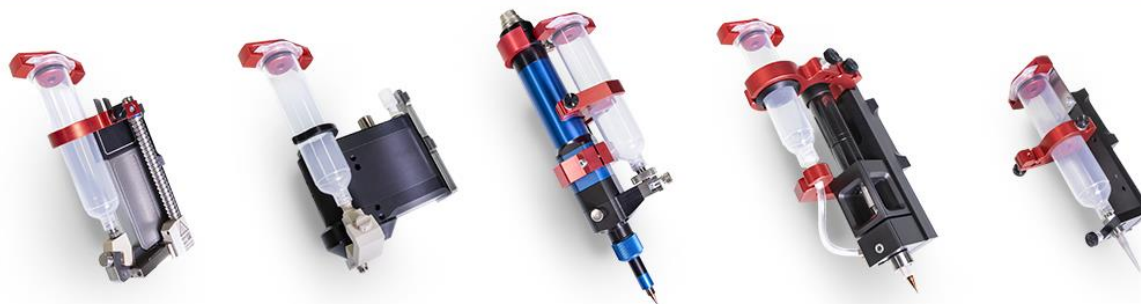


LED and R&D



Combined Process

- Placing & dispensing in single pass-through
- Jet dispensing with up to 145'000 dots/h
- 5 different valves for all dispensing processes
- Solder Paste Jet Printing Integration
- All retrofittable

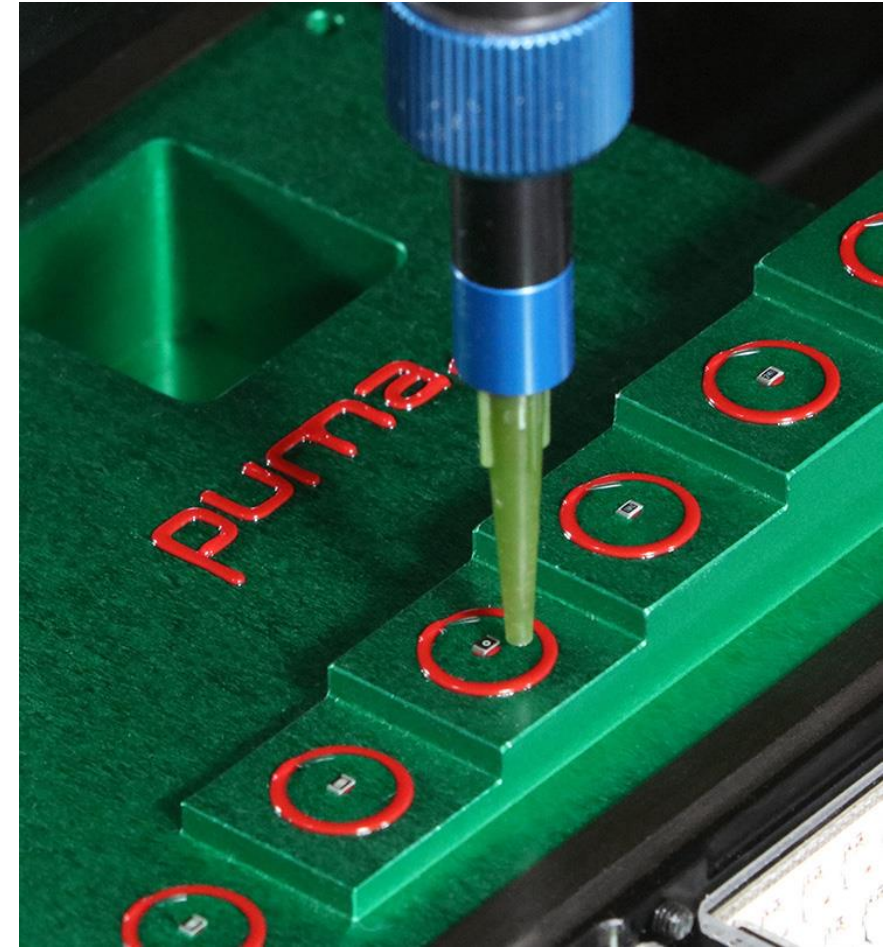


**Piezo Jet
Screw**

Time-Pressure

Shockwave Jet

Volume



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Valve Portfolio

TIME PRESSURE	MICRO SCREW	VOLUME	PIEZO JET	SHOCKWAVE JET
				
VTP-TP1000	VSR-MV	VVD-EP300	VJV-3200A	VDST-1560
<p>Medium speed</p> <p>Stable dispensing results</p> <p>or simple glue & solder paste , fill applications, mid to high volumes</p> <p>Viscosity: medium</p> <p>Speed(*): 28.000 dots/h</p> <p>IPC9850A: ~20.000 dots/h</p>	<p>Low/medium speed</p> <p>Constant and stable dispensing results</p> <p>For all adhesives & solder paste , dam applications</p> <p>Viscosity: medium</p> <p>Speed(*): 24.000 dots/h</p> <p>IPC9850A: ~18.000 dots/h</p>	<p>Medium speed</p> <p>Constant and stable dispensing results</p> <p>For sealing, gasketing, dam & fill applications, small to high volumes</p> <p>Viscosity: low-high</p> <p>Speed(*): ~28.000 dots/h</p> <p>IPC9850A: ~20.000 dots/h</p>	<p>Highest speed</p> <p>Constant and stable dispensing results</p> <p>For wide range of applications, special for adhesives</p> <p>Viscosity: low-high</p> <p>Speed(*): ~150.000 dots/h</p> <p>IPC9850A: ~60.000 dots/h</p>	<p>Fast speed</p> <p>Constant and stable dispensing results</p> <p>Special for solder paste</p> <p>Viscosity: very high</p> <p>Speed(*): ~80.000 dots/h</p> <p>IPC9850A: ~40.000 dots/h</p>

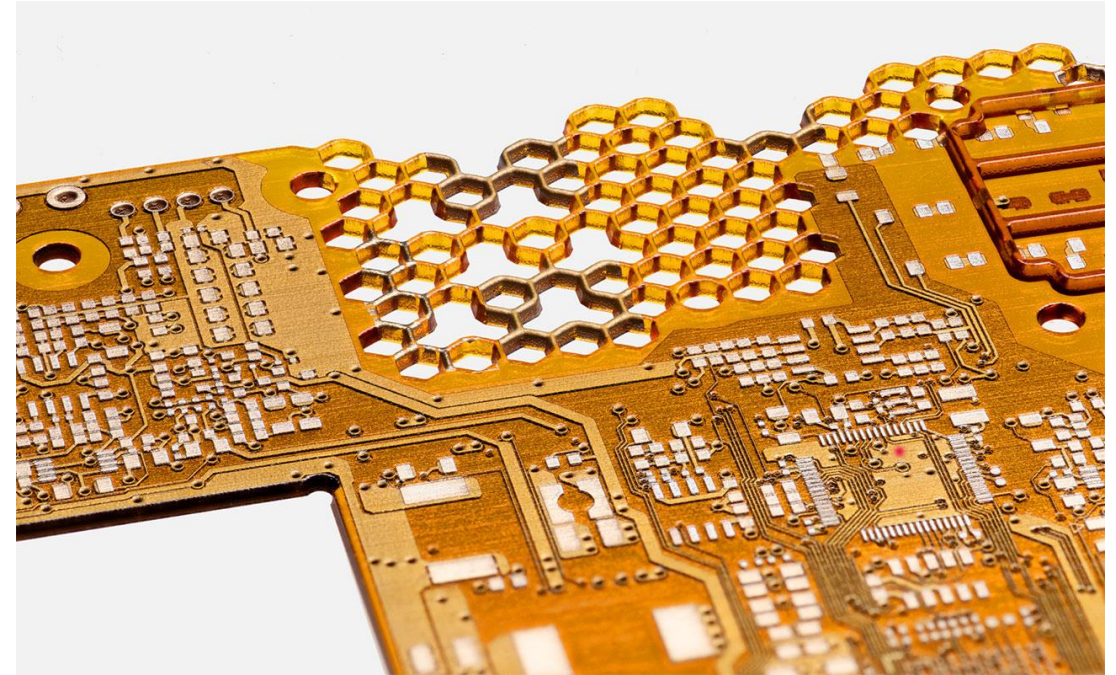
*Dotmatrix (1000 dots), 1x1mm grid (0,5mm Dot)

What Comes Next ?

Nano Dimension - Additively Manufactured Electronics - AME has a very great future.

What is it about:

- The ability to print fully 3D functional circuits and high-performance devices, providing the industry with a growing alternative to conventional PCB manufacturing.
- This can be delivered in one production step and within hours from CAD to finished product



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Thank you



Meet us at Smd-Tec stand **7F071** and at the Demoplein

Kevin Domancich

Essemtec Head of Customer Application Engineering

Tom Van Tongelen

Smd-Tec CEO