

Applications Development

Provided by Printed Electronics Limited

Printed Electronics Limited (PEL) is a Cambridge, UK Company focussed on the development of processes and systems for the commercial fabrication of electronic circuits, structures and devices using inkjet methods.

PEL's work is primarily targeted on the deposition of materials that have electronic attributes (eg conductors, insulators, capacitance, luminescence etc) using systems that are developed to be robust in a industrial environment.

PEL does not build complete deposition machines nor manufacture inks, instead, PEL develops processes for the deposition of those materials using systems it develops to be industrially robust.

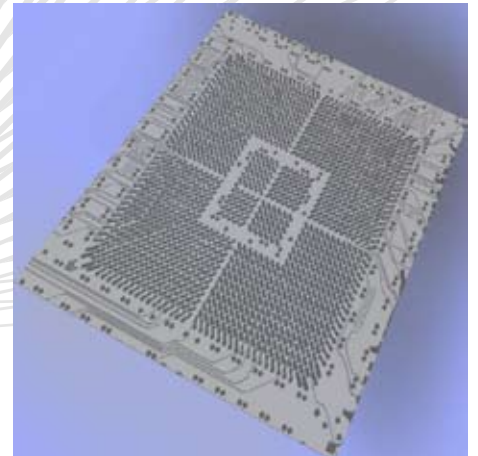
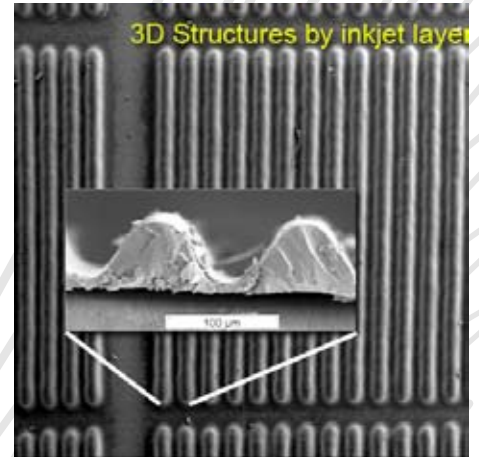
PEL's world-class Inkjet Development Facility (IDF) has been specifically designed to support businesses investigating, developing and prototyping in the following sectors:

- Inkjet electronics
- Non-graphic arts digitally-printed systems
- Novel inkjet applications and methods

PEL offers commercial access to an industry-leading inkjet deposition platform capable of producing multilayered electronic structures with micron-level accuracy. This unique system has been designed to deliver functional electronic inks at extremely high print resolutions using both binary and grayscale deposition. The system has built-in UV curing, heated substrate platen and image alignment for 3D structures.

PEL offers ink development services using its state-of-the art fluid analysis tools. PEL recognises that the fundamentals of successful inkjet printing of functional materials are (i) the fluid ("ink"), (ii) the head and (iii) the substrate; PEL brings expertise in all three areas and offers:

- Development of fluids ("inks") suitable for jetting in both binary and grayscale head systems
- Optimisation of inkjet heads and their fluid delivery systems for use with developed and experimental inks
- Production of design libraries of circuit elements compatible with inkjet manufacturing methods



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PEL also offer the following services to the NanoCentral Alliance on a commercial access basis:

- Designing products and processes to achieve long term reliability
- Designing specific ink-substrate behaviour - including surface selection, modification and UV pinning and curing optimisation
- Development of multilayer structures using active layer-by-layer distortion correction
- Evolution of design and proof-of-concept systems to an industrial scale

PEL can undertake both short and long term projects.

PEL's key areas of expertise include:

- Development of fluids ("inks") suitable for jetting in both binary and greyscale head systems
- Optimisation of inkjet heads and their fluid delivery systems for use with developed and experimental inks
- Production of design libraries of circuit elements compatible with inkjet manufacturing methods
- Designing products and processes to achieve long term reliability
- Designing specific ink-substrate behaviour - including surface selection, modification and UV pinning and curing optimisation
- Development of multilayer structures using active layer-by-layer distortion correction
- Evolution of design and proof-of-concept systems to an industrial scale

Location:

St Johns Innovation Centre, Cowley Road, Cambridge, CB4 0WS.

For further informaion, call:

Steve Devine on

dd +44 (0) 1642 442 464

m +44 (0) 7917 550 681

e steve.devine@nanocentral.eu

t +44 (0) 1642 455 340

f +44 (0) 1642 447 298

www.nanocentral.eu

