

Flexible Hybrid Electronics Manufacturing

New approaches to the production of flexible smart systems

Background

Hybrid electronics combine the flexibility, thinness and lightness of large-area electronics with the processing power of silicon to open up a broad range of new applications in the internet of things, smart buildings, healthcare, product packaging, retail and consumer electronics. Significant technical challenges arise in the integration of hybrid systems that are flexible and yet include small islands of rigid electronics, such as a silicon chip or a passive component.

Building on the important prior work of Professor Andrew Holmes and Dr Guangbin Dou at Imperial College London, the EPSRC Centre for Innovative Manufacturing in Large-Area Electronics has been conducting a small technology feasibility project in the field of novel bonding technologies for flex-circuit to flex-circuit and for silicon components (both packaged and unpackaged) to flex-circuit. Time per bond, bond resistance, bond strength, process temperature and yield have been important metrics for the work to date. Following promising results, the Centre has been considering how best to extend the work and commercialise it. We are now seeking collaboration with and guidance from industry as we take the technology forward.

Flexible Hybrid System Integration Workshop

We are holding a workshop at which we will present our recent technology progress and discuss our ideas for a new approach to multi-layer foil-to-foil integration for smart systems.

Our aim is to engage participants in determining:

- where the technology is most advantaged versus current approaches
- which applications would most benefit commercially from the new technology
- what would be the most appropriate technical targets to include in next project phase
- how the process could be scaled up in partnership with industry

There will be ample opportunity to put questions to the team and to discuss application requirements and process scale-up in both an open format and through one-to-one discussions.

Date

12 September 2017

Time

12:00 - 13:00 networking lunch

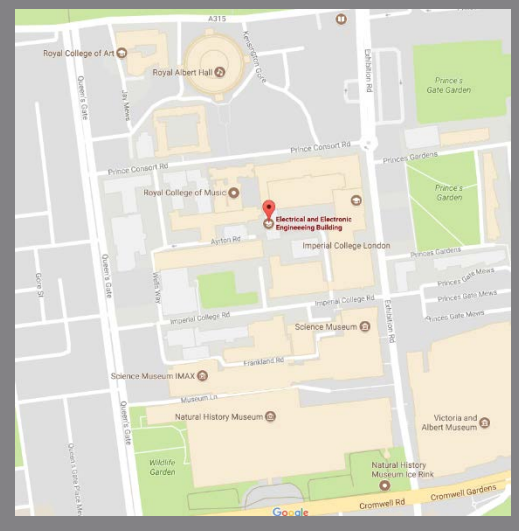
13:00 - 17:00 workshop

Registration

This is an invitation only event. Please send invitation requests and queries to:
info@largeareaelectronics.org

Venue

Department of Electrical and Electronic
Engineering
Imperial College London
South Kensington Campus
10 min walk from South Kensington station



Flexible Hybrid Electronics Manufacturing Workshop (continued)

Who should attend?

- Producers of components for flexible hybrid electronics
- Producers of flexible hybrid electronics
- Suppliers of equipment for the production of hybrid electronics
- Suppliers of equipment for bonding and attachment of silicon to flex circuit and flex circuit-to-flex circuit
- Suppliers of materials for bonding and attachment of silicon and flex circuits to other flexible circuits
- Suppliers of flexible substrates for hybrid flexible electronics
- End-users of smart electronic systems

Benefits of attending

- *Gain Competitive Advantage:* through knowledge of advanced interconnection process developments, providing an insight on where to invest in the future
- *Expand your Network:* by making contact with a range of organisations throughout the supply chain for FHE manufacturing
- *Stimulate New Approaches:* to create innovative methods for future FHE manufacturing

More Information

Admission to this event is by invitation only and numbers will be limited to experts in the technology together with potential end-users, manufacturers and suppliers. If your expertise or commercial interest is relevant to the topic and you would like an invitation or more information, please contact info@largeareaelectronics.org

Event Programme

12:00	Arrival, lunch and networking	
13.00	Welcome, introduction to CIMLAE and objectives for the meeting	Chris Rider
13.10	Introduction to FHE integration	Luigi Occhipinti
13:30	The ITAPPE project	Guangbin Dou
13:50	Future research plan	Andrew Holmes
14:00	Discussion – Q&A	All
14:30	Demonstrations, video and refreshments	
15:15	Opportunities to work with CIMLAE	Luigi Occhipinti
15:30	Panel Discussion	All
16:00	Refreshments, networking and one to one meetings	
17:00	Close of meeting	