PARC Printed Electronics Services

Application Development

Targeted at companies and institutions interested in developing products based on printed electronics, this suite of services provides design and fabrication of “proof of concept” level demonstrators. Demonstrators include peripheral equipment needed to power and provide/handle input-output signals.

Demonstrator design

PARC translates functional specifications into “proof-of-concept” designs using prequalified device and circuit characteristics. PARC’s experience in this area includes active-matrix display and sensing modules, amplifiers, level detectors, analog memory cells and shift registers, etc. The device capability includes CMOSTFTs, mechanical sensors and photodiodes.

Novel device design and fabrication

Clients often have special needs in terms of device functionality. PARC has a strong track record of innovating in this space across a range of materials and technologies. Examples include X-ray sensors, sensor TFTs fabricated with carbon nanotubes containing sensitized DNA, organic photodiodes, etc.

Printed circuit design and layout

Using standard CAD tools and cell libraries, layout files are generated which are used directly to drive the printers. Design complexities reaching into the tens of thousands of transistors can be achieved.

Fabrication and test

Using commercially available materials, (combined with client-supplied materials, if requested), PARC typically fabricates small quantities (2-10) of the proof-of-concept demonstrators. Fabrication includes the printing of the circuits and any lamination steps required to add, e.g., sensors. After test and optionally refinement of the design, PARC can fabricate larger quantities (up to 100 depending on size and yield) as required.

These services are typically customized for each client in the form of a detailed project proposal and timeline.