LONDON – A program of research into flexible organic light emitting diode (OLED) displays has begun at Holst Center (Eindhoven, The Netherlands) and IMEC (Leuven, Belgium).

OLEDs are already used in small, mobile applications such as smartphones and tablet computers where they are liked for their rich colors, high contrast and lower power consumption than LCD. OLEDs also have a faster response time than LCD and better viewing angle. OLED displays are also simpler in design and require fewer support components thereby enabling manufacturing cost reductions.

To these attributes Holst, IMEC and program participants such as Polymer Vision, a subsidiary of Wistron Corp. (Taipei, Taiwan), want to add mechanical flexibility and a thin-film transistor (TFT) backplane for addressability. IMEC and Holst did not reveal any other industrial participants in the program.

The program scope includes redesign of support transistors and development of manufacturing equipment for backplanes and roll-to-roll manufacturing. No indication was given for size, resolution or dot-per-inch goals for the research, or how long the program is expected to last.
"With this program in mind, we already have been working more and more towards integrating separate building blocks and have realized OLED displays using both organic and metal oxide TFT backplanes," said Paul Heremans, OLED display program manager, in a statement. "Thin, plastic substrates were used, and the displays were fully encapsulated using our state-of-the-art barrier technology." He added that display prototypes would be demonstrated in 2012.

Gerwin Gelinck is Heremans' opposite number at Holst Centre.

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