

OLED Displays on Flexible Metallic Substrates

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Universal Display Corporation, a leading developer of organic light emitting device (OLED) technologies for flat panel displays, lighting and other opto-electronic applications, and Palo Alto Research Center (PARC), a subsidiary of Xerox Corporation, announced today a collaboration to develop poly-silicon (poly-Si) thin-film transistor (TFT) backplane technology on metal foil. The backplanes will integrate Universal Display's high-efficiency phosphorescent OLED (PHOLED™), flexible OLED (FOLED®) and top-emitting OLED (TOLED®) technologies.

While OLED displays today require the use of transparent rigid substrates, such as glass, the combination of Universal Display's TOLED and FOLED technologies enable the novel use of a thin, flexible metallic substrate as an alternative to glass. Along with providing added ruggedness for demanding military and consumer applications, the use of metallic substrates — which can withstand the high processing temperatures used in TFT manufacturing today — will accelerate the development of flexible TFT backplanes, currently a limiting factor for the commercialization of flexible active-matrix (AMOLED) displays. In addition, Universal Display's TOLED technology can enhance visual display performance by increasing the effective aperture area of the display in comparison to conventional bottom-emitting AMOLEDs.

The fabrication of the poly-Si TFT arrays at PARC builds on their long experience in developing novel TFT backplane technology for displays and image sensors, based on amorphous silicon, poly-silicon and

polymer semiconductors. The PARC poly-Si technology has recently been demonstrated in image sensor arrays containing pixel amplifiers and shift registers.

The development of OLEDs on metallic substrates opens up a broader realm of futuristic applications.

Source: www.universaldisplay.com/

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