

World's 1st Backplane Array Tech inFlexible Display

Written by Bob Snyder
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PowerFilm gave a live demonstration of the world's first and only backplane array technology for a flexible display (made using a full roll to roll process integrated with a front plane driver to create the full working display). A backplane driver is an array of transistors that turns individual pixels on a display on and off, according to instructions from a computer.

The advantages of this technology, compared to current display technology and other technologies in development (none of which, says PowerFilm, are true roll-to-roll processed), are that the backplane driver itself is thin, lightweight, durable (plastic not glass), conformable, and is made using a low cost manufacturing process at scale.

PowerFilm started its roll to roll manufacturing expertise for semiconductors, and expanded into flexible electronics. The technology is developed by PowerFilm's majority owned subsidiary Phicot, in collaboration with Hewlett-Packard (HP) and the Army Research Laboratory (ARL). PowerFilm licenses HP's self aligning imprint lithography (SAIL) technology.

PowerFilm received approximately \$5.5m funding from ARL to develop a self powered flexible display for soldiers using a combination of PowerFilm's flexible display technology and its thin film solar material to allow it to be self-powered.

Additional potential applications include a ruggedized deployable briefing board for the military, other display screens, ebooks, and consumer electronics devices, and billboards.

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