How Will New Flexible Devices Change The Touch Screen Industry?

At long last, the transparent conductive film industry is primed for change. A new report released by IDTechEx, "Transparent Conductive Films and Materials 2018-2028: Forecast, Technologies, Players," argues that, while only a few players dominated the industry, advances in flexible screens and wide area screens could catalyze advancements for new transparent conductive film technology.

For years, little changed in the transparent conductive films and materials industry. Even today, roughly 85% to 90% of the TCF and TCM markets relies on "old" technology, like small to medium-sized tablets, smartphones, and all-in-ones. And the industry adoption of new applications has been slower than many predicted or hoped.

Several years ago, experts in the industry predicted the prominent use of touch monitors and all-in-ones. This projection never materialized. The industry underestimated the time required to transition from prototype to production. We've seen the same pattern repeated in the past with other applications such as organic photovoltaics and OLED lighting.

New Technologies Gain Traction

Today, transparent electrodes made of indium tin oxide dominates the market. Although clear as glass, ITO is too brittle to be used for flexible screens or large displays. Thus, the industry's reliance on ITO not only hampers innovation, but this dependence also frustrates makers of alternatives to ITO, who, in many cases, create technologies with distinct performance advantages.

Some industry leaders believe flexible screen technology will provide relief to manufacturers creating alternatives to ITO. Already, Samsung and Royole have announced flexible screen products, and others will follow suit. And the shift toward ITO alternatives that help create new flexible screens also promises to boost the large area touch screen industry, as well. Initially cornered by optical touch sensing solutions, the large area touch screen market sees traction for capacitive touch technologies. The larger areas demand low sheet resistance solutions, thus giving way to ITO alternatives.

But the transition can't happen overnight. Many ITO alternatives have been in the commercial development phase for 15+ years. Some solutions for flexible screens, especially in the short to medium term, will require an add-on touch film based on a flexible transparent conducting technology such as silver nanowires. The substrates may be based on polyimide films or will embed a metal mesh structure on top of a thin film encapsulation.

The transition of TCF and TCM beyond old application has been in the making for many years and is accelerating. The next decade promises to bring about new opportunities and a renewed sense of excitement to the once stagnant market.

Get The Information You Need

"Transparent Conductive Films and Materials 2018-2028: Forecasts, Technologies, Players" provides ten-year market forecasts for 20 applications including add-on and embedded touch technologies in mobiles, smartwatches, tablets, notebooks, AiOs, automotive displays; rigid as well as flexible OLED display markets; p-cap in large-sized touch displays; and OPVs and OLED lighting. The report also segments its forecasts by ten technology options, including ITO, silver nanowires, various metal mesh technologies (photolithography, direct printing, embossing, hybrid, and so on), graphene, carbon nanotubes, PEDOT, and others.