

New manufacturing process represents next step in flexible, liquid crystal display technology

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Kent Displays Inc. (KDI), a Kent State University partner, yesterday took delivery of a roll-to-roll production line which enables the manufacture of flexible displays, representing a significant change in the way liquid crystals will be used in everyday products. This production line, the first of its kind in the world, will increase the supply of flexible, low-power displays for unique product applications such as credit cards, curved surfaces, product tags, and other ePaper applications.

Currently, a vast majority of all liquid crystal displays in the market are cut from large sheets of glass and are processed separately.

This revolutionary roll-to-roll production line enables Kent Displays to efficiently and rapidly produce large quantities of flexible LCDs.

The production line unwinds a roll of coated plastic film and performs the necessary process steps to effectively convert the roll of film to a finished liquid crystal display assembly. It will be housed in a climate controlled ISO Class 7 cleanroom. The production line was built in the U.S. to Kent Display's specifications and has gone through several levels of testing to validate its design and operation.

"This is a giant leap forward in the process of producing flexible liquid crystal displays," says Dr. Albert Green, chief executive officer of KDI.

"The process of taking this technology to the next level is long and demanding," says Green. "We could not have reached this goal without the support of Bill Manning of Manning Ventures who has never lost sight of the vision that we have for this company and has given us the ability to sustain through difficult transitions."

Green adds, "an integral part of our success is the direct result of collaboration between our company and those that have supported our efforts along the way...partners like the Third Frontier Project, Kent State University, NorTech and the FLEXMatters initiative have contributed to the research and development of this production line."

Kent Displays began licensing technology developed at Kent State University in 1993 and since then has worked closely with researchers at the Liquid Crystal Institute to advance the state of the technology.

"The completion of this production line," comments Dr. John West, vice president for research at Kent State University, "is a milestone for Kent Displays and Kent State University that has the potential to put us at the forefront of display manufacturing." A ribbon-cutting celebration for the production line is scheduled for late October.

Source: Kent State University

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