

This article was downloaded by:

On: 16 January 2011

Access details: *Access Details: Free Access*

Publisher *Taylor & Francis*

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## Liquid Crystals Today

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713681230>

## Recent news on liquid crystals in industry

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To cite this Article Siemianowski, Simon(2009) 'Recent news on liquid crystals in industry', *Liquid Crystals Today*, 18: 1, 37 – 38

To link to this Article: DOI: 10.1080/13583140902975319

URL: <http://dx.doi.org/10.1080/13583140902975319>

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## Recent news on liquid crystals in industry

Simon Siemianowski

*The University of Manchester*

### Credit crunch hits the Japanese LCD industry

With the global credit crunch and many countries in recession it should come as no surprise that liquid crystal display companies have also been affected. Sharp of Japan announced recently that they recorded a much higher than expected loss for the 08/09 period of US\$1.3 billion, joining other key companies such as Sony and Panasonic that had already declared large operating losses accompanied with the reduction of thousands of jobs. It was therefore less of a surprise when Sharp announced that they have decided to move their production of LCD panels and solar cells outside of Japan, with China being suggested as a possible location. This move was elaborated on by Sharp president Mikio Katayama who said, 'We have come to a situation where we can no longer maintain the profit of our business based on the business model of exporting devices from our plants in Japan, even if they are state-of-the-art products.'

### Toshiba to continue alone

Toshiba also stated that they will buy the remaining stake of their joint venture with Panasonic in Toshiba Matsushita Display Technology. The company, which is set to post a loss in the region of US\$300 million for the 08/09 period, is already 60% owned by Toshiba and has been manufacturing LCDs for use in products such as mobile phone and satellite navigation systems for over six years. It is thought that Toshiba will overhaul the company by concentrating on new polycrystalline silicon panels that have higher resolution than their amorphous silicon counterparts. The deal will also allow Panasonic to focus on large displays, with them already being the largest selling company worldwide of plasma screen televisions.

### Kent Displays Inc increases productivity and reduces costs

Moving onto more positive news, Kent Displays Inc, founded in 1993 by Dr J. William Doane, is

manufacturing flexible displays on a previously unprecedented scale from October 2008 after incorporating a roll-to-roll production line into their current laboratory. The often talked about dream of 'paper like' displays that are thin, flexible, rugged, require no battery and have a wide viewing angle is now a great deal closer to becoming an everyday household reality. So much so that Kent Displays Inc and Kent State University had to survive a long legal battle against several parties to successfully uphold the patents on their Reflex<sup>TM</sup> displays. These displays use cholesteric liquid crystal working in reflection, and as such require no external power source and are clearly visible even in bright sunlight. This new method of production will reduce the overall cost and it is hoped that further improvements will make this product globally accessible in the near future.

### Head up displays for everyday use become a reality

Another hot area of liquid crystal research is the development of head up displays for use in everyday applications such as portable media players. Nikon Corp recently announced just this, with their UP300 device that comes with headphones and a flip down monocular head mounted display. The actual display consists of a 0.44 inch VGA liquid crystal on silicon display that has a resolution of 640 × 480 pixels which is projected directly into one of the user's eyes, equivalent to a 51 inch display placed 3 m in front. As well as playing media, the device can also be connected to a PC, providing a further realm of possibilities for this product. Nikon currently offer a 4 GB and an 8 GB version via their online store for ¥59,800 and ¥69,800 respectively, the success of which will determine how widely available this item will be around the world.

(Sources – PhysOrg, Nikkei Electronics, TM Display, *EuroInvestor*, *Industry Week*, Kent Displays, *Wall Street Journal*, Display Blog).

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**Sharp section:**

<http://www.physorg.com/news158396102.html>  
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[http://www.industryweek.com/articles/toshiba\\_to\\_take\\_over\\_lcd\\_jv\\_with\\_panasonic\\_18830.aspx](http://www.industryweek.com/articles/toshiba_to_take_over_lcd_jv_with_panasonic_18830.aspx)  
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<http://www.kentdisplays.com/news/releases/080819.html>  
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**Head Up Displays section:**

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