

Realfiction introduces an alternative, more direct path toward mass production of large-format DPT displays

Realfiction Holding AB (“Realfiction” or the “Company”) today announces a significant technological advancement in its Spatial Light Modulator (“SLM”), which could lead to a more direct and scalable approach to mass production of large-format displays based on its Directional Pixel Technology (“DPT”).

DPT relies on ultra-fast switching liquid crystals within the SLM to enable key features such as multiple simultaneous viewers experiencing individual 3D content, combined with strong depth and “pop-out” effects, without loss of resolution.

As part of its development roadmap, Realfiction initially demonstrated a 15-inch SLM based on twisted nematic (TN) liquid crystals. While well-integrated in existing manufacturing processes, TN crystals do not provide sufficient switching speed to support multi-user individual 3D, but they served as an important step in validating core DPT principles and high-resolution image quality.

To enable multi-user functionality, the Company subsequently introduced a 4-inch DPT demonstrator based on ferroelectric liquid crystals (FLC), offering significantly higher switching speeds. The demonstrator, presented at CES in Las Vegas and at the Company’s Investor Day in Copenhagen, received encouraging feedback, particularly regarding depth, “pop-out” effects, and simultaneous multi-user experiences across applications such as gaming, collaboration and telepresence.

Scaling DPT to commercially relevant display sizes, such as 27 inches and above, while maintaining a thin form factor, has, however, presented two key challenges.

Firstly, mass production of FLC-based displays at larger sizes remains complex. Existing display manufacturing processes are not optimized for FLC materials, and while development efforts are ongoing across the industry, no broadly adopted high-volume manufacturing solution has yet been established.

Secondly, scaling DPT requires the image-generating layer behind the SLM to deliver high-resolution content synchronized with the SLM. This typically requires access to advanced production lines or adaptation of existing technologies, which in turn depends on investment from panel manufacturers or major industry players. Without a clear path to scalable SLM production, such investments have been difficult to justify.

In parallel with its work on FLC, the Company has identified and developed an alternative SLM approach based on a class of nematic liquid crystals already widely used in the display industry and compatible with established mass production methods.

Through targeted adaptations, Realfiction has developed a patent-pending new principle aimed at enabling the required high-speed performance using this production-ready liquid crystal platform. Compared to FLC-based approaches, this solution offers a simpler implementation and is directly aligned with existing manufacturing infrastructure.

This development addresses key barriers to scaling DPT and support a more direct path toward mass production of large-format displays.

Realfiction is now initiating collaboration with its partners to further validate and integrate the upgraded SLM approach into future DPT display designs. The objective is to accelerate the path toward mass production of DPT displays across multiple sizes and application areas, while maintaining the core DPT characteristics, including multi-user individual 3D experiences, strong depth perception, and no loss of resolution.

Clas Dyrholm, CEO of Realfiction, comments:

“This is a major step forward for DPT. By aligning with existing manufacturing methods, we believe this approach can remove a key barrier to commercial adoption and support a more scalable and efficient path toward mass production, significantly strengthening the foundation for commercial engagement and future licensing opportunities.”

For more information about Realfiction Holding AB, please contact:

Clas Dyrholm, founder and CEO
Telephone: +45 25 22 32 81
Email: clas@realfiction.com
www.realfiction.com

Certified Adviser

Mangold Fondkommission AB is the company's Certified Adviser and can be contacted via ca@mangold.se or +46 8 503 015 50.

About Realfiction Holding AB

Founded in Denmark in 2008, Realfiction is a provider of cutting-edge 3D display technologies designed for tomorrow's needs, featuring technological breakthroughs with its Directional Pixel Technology for LCD, OLED and microLED. These technologies support a wide range of use cases, including enhancing driving safety, medical imaging, immersive gaming and entertainment, digital signage, as well as applications in architecture, engineering, and design. The Company offers a comprehensive intellectual property portfolio tailored for OEMs and Tier-1 partners involved in developing and marketing displays for markets and industries requiring high-resolution multistereoscopic displays. All technologies are ready for licensing, and Realfiction is actively pursuing commercial licensing agreements and partnerships to pave the way to mass production. Realfiction's IP portfolio comprises 15 patent families and registered trademarks, including patent applications filed in multiple countries. Realfiction Holding AB's shares are publicly traded on Nasdaq Stockholm First North under the symbol "REALFI", with the share's ISIN code being SE0009920994.

Attachments

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