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NEG develops world's thinnest liquid crystal lens, achieving the lowest power consumption in the world

Nippon Electric Glass Co., Ltd. (NEG) has developed the thinnest liquid crystal lens achieving the lowest power consumption in the world* (thickness: 0.5 mm, power consumption: 0.5mW) in collaboration with the Akita Industrial Technology Center.

The thickness of the liquid crystal lens for imaging has been reduced by more than half that of conventional products by minimizing the thickness of glass substrate used to seal the liquid crystal. This new liquid crystal lens is expected to be used in cameras incorporated in mobile phones and personal digital assistants (whose thickness and weight will be further reduced) as well as cameras for commercial use.

Designed to utilize alignment properties of ellipsoidal liquid crystal molecules, a liquid crystal lens can serve as an aspheric lens. The focus can be adjusted to arbitrary positions by controlling the operating voltage. Notably, liquid crystal lenses do not involve drive units such as motors, which significantly reduces the required space and achieves low power consumption and high product reliability.

NEG, which takes pride in its advanced thin glass technologies, has worked on the development of liquid crystal lens as one application of such technologies. NEG's latest liquid crystal lens is characterized by its small size and low operating voltage (designed for tablet PCs and mobile phones, among others) as well as the lowest power consumption in the world*. Arrangements are under way to start shipping samples by the end of 2011.

The new liquid crystal lens will be exhibited at CEATEC JAPAN 2011 (NEG booth: No. 5D11) at Makuhari Messe from October 4 to 8, 2011.

*As of September 2011 (based on an NEG survey)

<Product overview>

- Thickness: 0.5 mm
- Lens diameter: 3.0 mm
- Weight: 100 mg
- Power consumption: 0.5 mW or less

