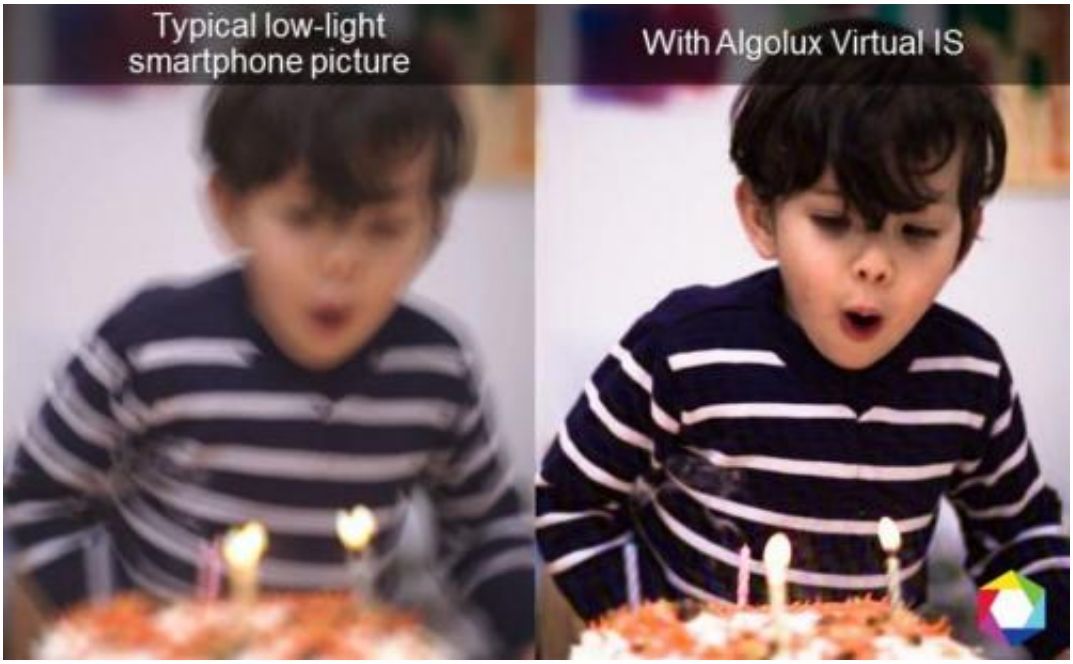
Algolux tackles optics challenges in smartphones

September 5 2014, by Nancy Owano



Credit: Algolux

Algolux is a company aiming to tackle blurring problems through computational optics. Algolux said its efforts are presently focused on smartphones and tablets. One can appreciate how this company sees their technology attracting interest in this way. The technology allows for lens designs to be less complex, smaller, lighter and cheaper which would be especially interesting in smartphone imaging where space is at a premium, said Connect, a website on mobile photography technology.

The company tells site visitors that "Our computational optics enable better pictures, thinner cameras and cheaper optics." The technology allows manufacturers' devices to capture clearer pictures with their existing equipment, including in low-light conditions. Also, the quantity and quality of optical elements needed are diminished; manufacturers can obtain desirable results at a lower cost.

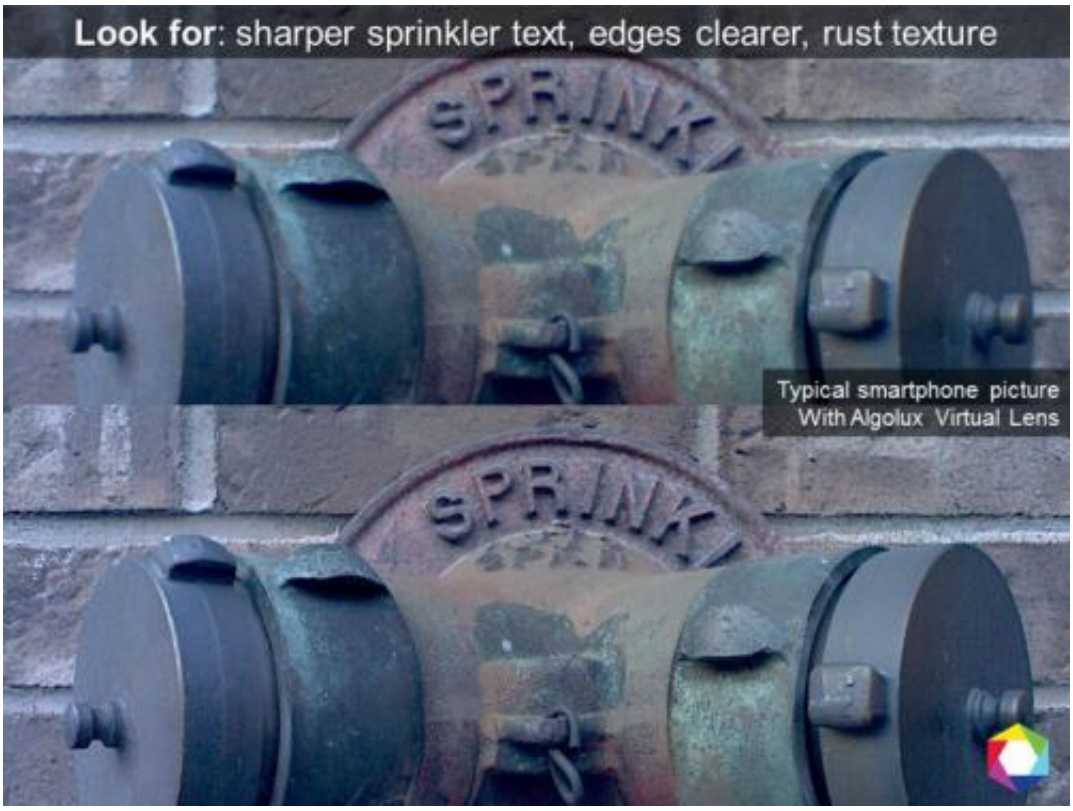
Traditional optics have hit a wall, according to the company. Their size can no longer be reduced significantly for cameras inside thin devices such as smartphones and tablets."Lenses in smart devices are small and plastic (for the most part), and do not have the quality of a full-sized optical system, especially for low-light and night-time pictures. As sensors and pixels get smaller, the probability of blur and other aberrations in pictures increases."

Algolux Virtual Lens corrects optical aberrations through software, for sharper photos. Algolux Virtual IS corrects motion blur and shutter shake, which may be experienced in low light conditions. Virtual Lens takes care of image quality while Virtual IS software takes care of image stabilization. All in all, the company has software and computational imaging techniques that correct for blurring, distortion and other aberrations.

Algolux will have two prototypes available for manufacturers before the end of this year, according to The Vancouver Sun. According to the report, Algolux CEO Allan Benchetrit said the technology could be used in many other areas, including video cameras, video surveillance, in-vehicle cameras, medical imaging and wearables.

"We are currently focusing on smartphones and tablets, a fast-growing market where cameras and computational power are tightly intertwined. As smartphones attain a certain level of parity across vendors, camera

quality and device design have become very strong differentiators." said the team.



Credit: Algolux

As for Algolux technology, Popular Photography said that the results seem interesting. DL Cade wrote in PetaPixel on Thursday, "since attaching a 500mm lens to a smartphone looks… well… kind of dumb, the folks at Canadian startup Algolux are taking a software-based approach and producing some truly incredible results in the process." Connect said, "With its software Algolux aims to help make lens designs simpler by substituting complex lens designs with algorithms."

More information: algolux.com/technology/