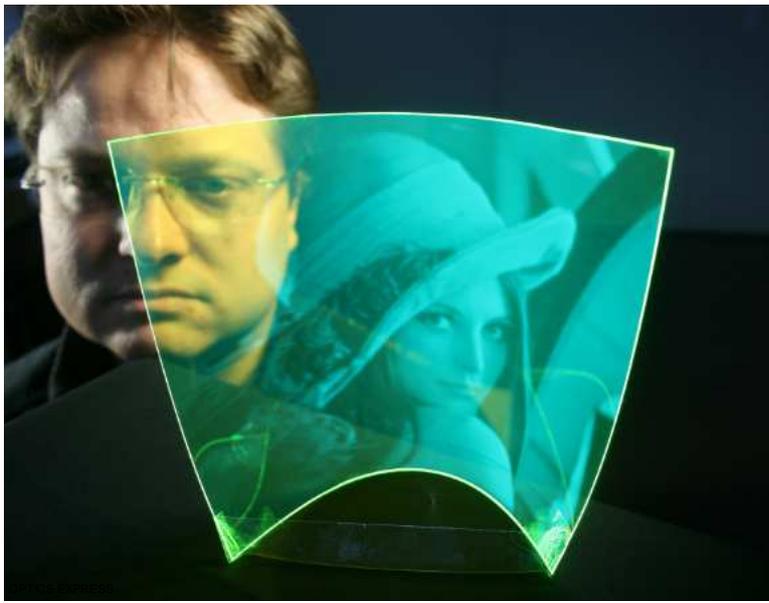# GEEK TECH (/COLUMN/GEEK-TECH/) Hacks, gadgets, and all things geek.

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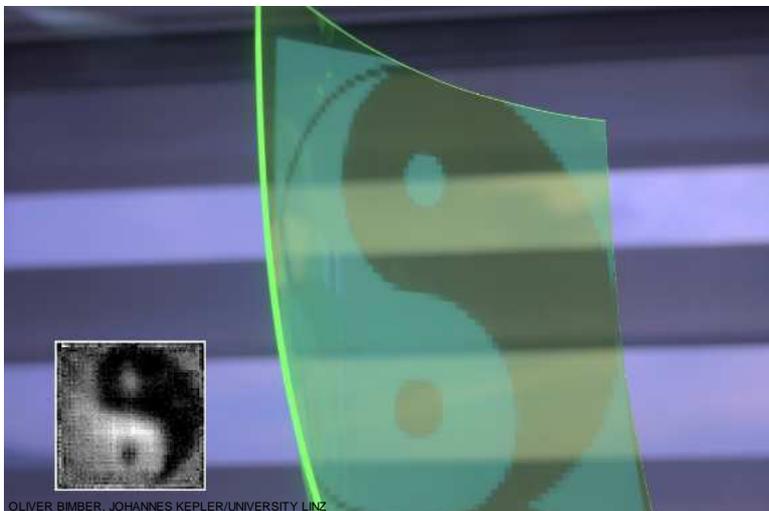# Scientists create a futuristic camera that uses next-generation film

Kevin Lee
@baggingspam   Feb 25, 2013 3:19 PM

Researchers at the Johannes Kepler University (http://www.jku.at/content) in Linz, Austria have developed a new kind of digital imaging sensor (http://www.osa.org /en-us/about_osa/newsroom/newsreleases /2013/new_imaging_device_that_is_flexible,_flat,_and_tra/) unlike anything we use today. Instead of hiding a digital sensor smaller than the size of a post-it note inside a camera, this sensor acts like a digital display that shows you exactly what you are capturing.

This new kind of sensor is made of a thin, flexible, and transparent sheet of material known as a luminescent concentrator that's filled with tiny fluorescent particles that absorb a specific wavelength of light.

A comparison between the image being focused on the sensor surface and the reconstructed image.

The material works almost like film in that it absorbs part of the light to produce an image. An array of optical sensors around the edges of the sheet carries out the actual image capture: These sensors analyze how the light is being scattered across the surface and compiles that information into a grayscale picture.

So far, the Austrian scientists have only been able to reproduce a grainy black and white image, but they hope that layering these films will allow them to capture higher resolution images, as well as multiple wavelengths of light (which would allow it to take color photos).

Alternatively, the researchers say their luminescent concentrator could be placed in front of a traditional CCD sensor to capture two shots at the same time with at different exposures, allowing it to create a HDR image on the fly.

[The Optical Society (http://www.osa.org/en-us/about_osa/newsroom/newsreleases/2013/new_imaging_device_that_is_flexible,_flat,_and_tra/) via PetaPixel (http://www.petapixel.com/2013/02/24/new-flexible-sheet-sensor-tech-could-one-day-turn-your-display-into-a-camera/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+PetaPixel+%28PetaPixel%29)]

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