

Researchers devise new image sensor that could meld screens with cameras

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[CCD sensors](#) have long ruled the digital imaging roost, but a team of researchers at Johannes Kepler University in Linz, Austria have concocted flat, flexible and transparent image sensors that could eventually change things up. Made from a flexible polymer film suffused with fluorescent particles, the prototypes catch only a specific wavelength of light and shoot it to an array of sensors that surround the sheet's edge. At that point, the rig calculates where light entered the polymer by measuring how much it has diminished during its travel time, and then composes an image from that data. It's said the process is similar to how a [CT scan](#) functions, but uses visible light instead of [X-rays](#). Not only is the membrane relatively inexpensive and potentially disposable, but the solution is a world's first, to boot. "To our knowledge, we are the first to present an image sensor that is fully transparent – no integrated microstructures, such as circuits – and is flexible and scalable at the same time," said Oliver Bimber, co-author of the group's paper.

As of now, the setup only snaps black and white images with a resolution of 32 x 32 pixels, but there are plans to boost its fidelity by leveraging higher quality photodiodes (or even composite photos). Also, color photographs could be achieved by using several sheets that capture different hues of light. So, what's this all mean for practical applications? Researchers believe its prime use lies in layering the film on TV screens and other displays to offer gesture

controls without pesky, [additional cameras](#). In addition, objects can be imbued with sensor capabilities if wrapped with the layer, and even CCD's could benefit from having a slice of the polymer slapped on them to take photos at different exposures. Hit the second source link for the scientific nitty-gritty, or head past the break for a glimpse at the setup's photos.

