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# A Smart-Phone Camera that Offers More than Megapixels

*Pelican Imaging's "array camera" will mean thinner devices and new imaging tricks.*

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Credit: Pelican.

The next generation of smartphone cameras might actually be 25 cameras rolled into one. A company called Pelican Imaging recently announced it had developed the first prototype "array camera" for mobile devices. Instead of using one lens, Pelican uses an array of multiple lenses; it combines all the data from these multiple viewpoints and then builds a single high-quality image. Since it uses software to process the image, this is sometimes called "computational imaging."

Why does the invention matter? Here's one very simple reason: it could cut down on the width of your iPhone 7, say, or other smartphone of the future. More intriguingly, though, the computational approach allows all sorts of interesting manipulations. It enables "foveal imaging," for one, a type of focus that more closely mimics how the eye actually sees. And it could even give you the ability to alter the focus of an

image *after* the image has been taken. (Outlets from CNET to Engadget have been drooling over that one, in particular.)

Pelican Imaging was founded in 2008 and has received $17 million in venture funding to date from investors like Globespan Capital Partners, Granite Ventures, InterWest Partners, and IQT, according to CrunchBase. And it has a truly stellar supporting cast, in the form of three recently-announced members of its technical advisory board. Marc Levoy, a computer science professor at Stanford, co-designed the Google book scanner and helped launch Google Street View; Shree Nayar of Columbia co-directs that university's Vision and Graphics Center and its Computer Vision Laboratory; Bedabrata Pain, CEO of technology consulting firm Edict Inc., co-invented active pixel sensor technology that helped inspire today's mobile phone cameras.

For Levoy, Pelican's prototype is exciting because it miniaturizes a type of technology already proven on the larger scale: "We have been investigating these aspects of computational photography in our laboratory at Stanford for a number of years, through the Stanford Multi-Camera Array, which is big, slow and expensive," he said in a release. "Pelican's solution is small, fast and inexpensive - which makes it a very exciting technology." Nayar goes so far as to call Pelican's technology a "paradigm shift in imaging and video" likely to "bring computational imaging applications to the mass market."

But it's not just people on Pelican's payroll who are shilling for the novel protoype. Om Malik at GigaOm thinks that the new array camera helps explode what he calls "the megapixel myth"--the notion that "the more megapixels we have on our mobile phone camera, the better our photos will be." A higher number of smaller lenses may be the real path forward--making Pelican's new camera more than the sum of its parts.