Sony promises better face identification through depth-sensing lasers

Sony, the global leader in imaging sensors – both for smartphones and professional DSLR and mirrorless cameras – is eager to establish itself as the go-to supplier for the next generation of visual-processing chips with a set of new 3D sensors. Speaking with *Bloomberg* last week, Sony's sensor division boss Satoshi Yoshihara said Sony plans to ramp up production of chips to power front and rear 3D cameras in late summer, responding to demand from multiple smartphone manufacturers. Though Yoshihara is geeked about the potential for augmented reality applications, the most intriguing aspect of this new tech would appear to be a better form of face identification than we currently have.

The Face ID approach that Apple first brought into use on the iPhone X – and others like Xiaomi, Huawei, and Vivo have since emulated – works by projecting out a grid of invisible dots and detecting the user's face by the deformations of that grid in 3D space. Sony's 3D sensor, on the hand, is said to deploy laser pulses, which, much like a bat's echolocation, creates a depth map of its surroundings by measuring how long a pulse takes to bounce back. Sony's sensor chief argues this produces more detailed models of users' faces, plus it apparently works from as far away as five meters (16 feet).

Tech could be used in a number of different ways and devices, potentially including the next iPhone

Imaging hardware has traditionally been all about photography and videography, but depth-sensing of the kind Sony is talking up for 2019 is becoming increasingly important. The Japanese

giant acquired a Belgian outfit called SoftKinetic a few years ago, which was renamed to Sony Depthsensing a year ago. Now there’s an entire website dedicated to Sony’s venture into the category, with autonomous cars, drones, robotics, head-mounted displays, and of course gaming all figuring as potential applications.

In the mobile context, there’s certainly room for improvement for current face-unlocking methods. The most basic kind, such as on the OnePlus 6T, uses the selfie camera to identify the user’s face, and is thus only usable in the dark if you’re willing to flash your face with a bright light every time you unlock your phone. Apple’s Face ID and its Android rivals are all built using multiple components that demand a significant chunk of real estate at the top of the device — which is fine for larger tablets like the new iPad Pro, but stands as a big hurdle for any phone designer eager to achieve the ultimate all-screen design. Sony’s 3D sensors would be an instant winner if they prove capable of matching Face ID for accuracy and security while shrinking down the size of required parts.

In late 2017, a report emerged of Apple preparing exactly this sort of 3D laser-based system for the 2019 iPhone, though at the time the company was said to still be courting suppliers. Yoshihara wouldn’t be drawn into discussing which hardware partners Sony expects to see using its 3D sensor technology, but Sony already provides imaging sensors to Apple, so there’s a reasonable chance that these two reports find their confluence with the release of the next set of iPhones featuring Sony’s upgraded 3D-sensing chip.

https://www.theverge.com/2019/1/2/18164881/sony-tof-laser-depthsensing-3d-camera-report