

Makers can enjoy depth sensing capabilities via Intel cameras

January 23 2018, by Nancy Owano



The D415 Depth Camera comes in a ready-to-use, USB-powered form factor and are ideal for makers, educators, hardware prototyping and software developers to easily add depth. Credit: Intel Corporation

Intel has two new depth cameras creating a buzz, the new D415 and D435, from their Intel RealSense product family. This is in the D400 Series.

The new cameras come in a ready-to-use, USB-powered form factor.

The advantage: You can add 3-D capabilities to any device or machine. "Many of today's machines and devices use 2-D image recognition-based computer vision," said Sagi Ben Moshe, vice president and general manager of the RealSense Group at Intel. ... "the Intel RealSense D400 Depth Camera series not only makes it easy for developers to build 3-D depth sensing into any design, but they are also ready to be embedded into high-volume products."

Both the D415 and D435 versions have a pair of depth sensors, RGB sensor, and infrared projector.

They are described as quite suitable for makers and developers who may be interested in an added depth perception capability.

Expect in both [camera](#) versions a "powerful vision processor that uses 28 nanometer (nm) process technology and supports up to five MIPI Camera Serial Interface 2 lanes to compute real-time depth images and accelerate [output](#)."

Included in the feature highlights is a "new and advanced stereo depth algorithm for more accurate and longer range depth perception."

A color image signal processor can be used for image adjustments and scaling color data.

Maximum range is listed as approximately 10 meters.

So where do the two versions differ?

There is the rolling [shutter](#) vs. global shutter difference.

The D435 is the same small form factor with a wider field of view and global shutter.

"The D415 uses a rolling shutter, meaning that it scans images sequentially from one side of the sensor to the other. By contrast, the D435 uses a global shutter, which scans the whole image [simultaneously](#)," said *Windows Central*.

A global shutter taking images all at once makes it ideal for capturing [depth perception](#) of [objects](#) in motion and for covering big areas, since it minimizes blind spots, said Mariella Moon in *Engadget*.

And then there is the [difference](#) in price. The D415 is \$149 and the D435 is \$179.

The cameras can be indoors and outdoors and in any lighting environment. Moon noted that, as they work indoors or outdoors, "they can be used for almost any machine that needs a depth camera. Those include drones meant to soar the skies and robots with AR/VR features."

Also, one can check out the software development kit, Intel RealSense SDK 2.0, at github.com/IntelRealSense/libr...ense/releases/latest

If either the \$149 or \$179 camera grabs your attention, you are not

alone. "Intel says it is currently experiencing 'overwhelming demand,' so shipments may be delayed," said *Windows Central*.

More information: [newsroom.intel.com/news/intel- ... depth-camera-series/](https://newsroom.intel.com/news/intel-...depth-camera-series/)

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