

# Canon develops CMOS sensor with approximately 250 megapixels, the world's highest pixel count for its size

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A camera prototype equipped with the newly developed CMOS sensor. (Shown with EF35mm f/1.4 USM lens.)

Canon Inc. announced today that it has developed an APS-H-size (approx. 29.2 x 20.2 mm) CMOS sensor incorporating approximately 250 million pixels (19,580 x 12,600 pixels), the world's highest number of pixels for a CMOS sensor smaller than the size of a 35 mm full-frame sensor.

When installed in a camera, the newly developed sensor was able to capture images enabling the distinguishing of lettering on the side of an airplane flying at a distance of approximately 18 km from the shooting

location.

With CMOS [sensors](#), increases in pixel counts result in increased signal volume, which can cause such problems as signal delays and slight discrepancies in timing. The new Canon-developed CMOS sensor, however, despite its exceptionally high pixel count, achieves an ultra-high signal readout speed of 1.25 billion [pixels](#) per second, made possible through such advancements as circuit miniaturization and enhanced signal-processing technology. Accordingly, the sensor enables the capture of ultra-high-pixel-count video at a speed of five frames per second. Additionally, despite the exceptionally high pixel count, Canon applied its [sensor technologies](#) cultivated over many years to realize an architecture adapted for miniaturized pixels that delivers high-sensitivity, low-noise imaging performance.

Video footage captured by the camera outfitted with the approximately 250-megapixel CMOS sensor achieved a level of resolution that was approximately 125 times that of Full HD (1,920 x 1,080 pixels) video and approximately 30 times that of 4K (3,840 x 2,160 pixels) video. The exceptionally high definition made possible by the sensor lets users crop and magnify video images without sacrificing image resolution and clarity.



The Canon-developed 250-megapixel CMOS sensor.

Canon is considering the application of this technology in specialized surveillance and crime prevention tools, ultra-high-resolution measuring instruments and other industrial equipment, and the field of visual expression.

Provided by Canon

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