

MARKET ANALYSIS

CONNECTING THE DOTS

Impact of Pixel Shift Technology on Digital Camera Market 2019-2024

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Pixel shift technology emerges as a key differentiator of camera functionality that may turn from a rather niche obscure feature to “mast-have” in years to come. Pixel shift is a technique which increases the true resolution of imaging devices by moving one or more of the separate red, green or blue sensors by fractions of a pixel in the x- and y-directions.

Only a few years ago Canon and Nikon were indisputable leaders of digital camera market, more so in professional photography. Bold innovation and aggressive product strategy quickly brought Sony to the top, so now it's a triumvirate of Canon, Nikon and Sony challenged from all directions:

- Much improved and constantly innovating Fujifilm, Olympus and Panasonic mirrorless cameras are increasingly target professional photography market;
- Lucrative market segment of original brand lenses has been diluted significantly by third party manufacturers Sigma, Tamron, Tokina and others;
- From the high end by medium format offers from Fujifilm and Hasselblad, cult-like status of Leica;
- From the low end by advances in computational photography and sensor technology bringing image quality in mobile phones and compact devices on par with DSLR and mirrorless.
- Manufacturers of CCTV cameras, action video/photography devices and drones are testing the ground and making small inroads in professional photography domains with niche products.

All top digital camera brands now offer superb image quality, wide range of features and supporting infrastructure. With all top cameras turning jack of all trades and master of all the race is on to differentiate product offers by new features which brings us to pixel shift technology addressing one of the most important camera characteristics – its resolution.

Pixel shift technique has been pioneered in 1990s in imaging sensor devices imitating bionic principle of spider eye with resolution enhancement by mechanical vibrations. In the digital camera market Hasselblad and Pentax (Ricoh) have been the first to implement the pixel shift technology but it is the recent launch of the Sony a7R III pixel shift enabled camera that gives entirely new dimension to this promising imaging technology. The significance of pixel shift technology is in leveraging a smaller sensor

size to capture higher resolution images of adequate quality. The key ingredients of pixel shift method are advanced computational techniques of image fusion and processor capabilities.

In consumer-focused smartphone and digital camera markets the pixel shift technology may become a game changer, bringing to life an entire new class of highly portable and capable imaging devices. There may be other image enhancing differentiating technologies both on camera hardware and software levels but the significant advantage of the pixel shift technology is that it can be implemented at the software/processor level, either without affecting optical and mechanical characteristics of the camera, or resulting in smaller form factor.

The report explores impact of pixel shift technology on digital camera market and covers key concepts and developments associated with pixel shift imaging.

The report provides detailed year by year forecasts of shipment value, retail value, unit value (both shipment and retail) and retail sales for the following pixel shift-enabled digital camera market segments:

- Pixel shift-enabled interchangeable lens SLR digital camera market segment;
- Pixel shift-enabled interchangeable lens mirrorless digital camera market segment;
- Pixel shift-enabled fixed lens digital camera market segment;

The report estimates impact of nascent pixel shift imaging technology on the preeminent digital camera market, in shipment value and retail sales terms, year by year. The report also estimates cumulative pixel shift-enabled digital camera market share by geographic region.

Impact of Pixel Shift Technology on Digital Camera Market, Tabular Analysis, January 2018, Pages: 9, Figures: 1, Tables: 4, Single User Price: \$5,950.00
Reports are delivered in PDF format within 24 hours.

The dataset provides quantitative market research information in a concise tabular format. The tables/charts present a focused snapshot of market dynamics.