



Banpil Photonics, Inc.  
2953 Bunker Hill Lane, Suite 400,  
Santa Clara, CA 95054  
P: 408-282-3628  
[www.banpil.com](http://www.banpil.com)

For Immediate Release

## **Banpil Photonics, Inc. issued new patent for multispectral image sensor for next generation imaging applications**

**SANTA CLARA, California - May 08, 2012** - Banpil Photonics, Inc., a leading company expanding the boundaries of optics and electronics through innovations, today announced it has been issued US Patent 8,174,059 for its multispectral (or broadband) image sensor technology, capable of imaging a broad spectral range (0.3 – 2.5  $\mu\text{m}$ ) spanning ultraviolet (UV) light, visible light, near infrared (NIR), and short-wave infrared (SWIR) regions. The innovation, which achieves imaging in a single monolithic device previously only possible with multiple imagers for the specific bands, now makes it possible to see beyond normal human vision to include invisible light spectrums at low-cost and with less complexity.

"The Banpil sensor 4-in-1 band coverage of entire wavelength - near UV, visible, NIR, and SWIR in a single sensor will enable our customers to perform multiple imaging functions at high quality and cost effectively," noted Banpil CEO, Dr. Achyut Dutta. "We are very pleased and proud to continue building our patent portfolio and demonstrating our broadband technology as a next generation solution to image sensor requirements for various applications."

Additional features of the breakthrough include high sensitivity and high-quantum efficiency, which translate into next generation cameras capable of imaging very low light scenes and providing more than twice the sharpness of standard imagers. Banpil's multispectral image sensor is the future of imaging and will replace current image sensors. CCD and CMOS sensors are mature technologies that have revolutionized imaging in many applications. However, CCD/CMOS have limitations that render these sensors nearly useless in less than perfect visibility conditions like rain, fog, and most of all, at night in automotive applications or in medical imaging of the insides of our bodies, and in security surveillance in poorly lit areas.

A significant advantage that sets the Banpil sensor innovation apart is that it is uncooled, and its performance will not be degraded under wide range of temperature variation. The implications are profound in that for the first time high-sensitivity imaging can be achieved without the overhead of a cryogenic cooling module as has previously been the case. This not only makes it friendly to applications with restricted size, weight, power and cost (SWaP-C) parameters such as space and defense, but also opens doors to more commercial applications especially due to the low-cost threshold that previously limited adoption.

Addressing a target image sensor market estimated at \$8B by 2017, the Banpil sensor is ideal and unique in multi-purpose industrial applications such as telecommunication, imaging, and sensing applications including remote sensing, advanced LIDAR systems, and defense and security applications including high sensitivity intelligence, surveillance, and reconnaissance (ISR) assets such as drone (UAV) cameras and night vision gear for dismounted warfighters. Banpil's multispectral image sensor will also have applications in consumer electronics like smart phones and digital cameras enabled with night vision functionality, affordable military-strength commercial night vision security, and industrial applications such as automobile sensors for total driver vision in day and night, machine vision for quality control applications, and medical imaging applications such as disposable endoscopes and camera pills.

Sample-level sensor products are available for demonstration. The company welcomes opportunities to work with application developers to explore new or enhanced imaging applications including joint product development, licensing, strategic camera manufacturing partnerships as well as investors.



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**About Banpil Photonics, Inc.**

Banpil Photonics is expanding the boundaries of optics and electronics through innovations. Banpil develops and manufactures next generation multispectral image sensors for automotive & medical imaging systems, security & surveillance, and machine vision applications; high-efficiency energy harvesting devices for energy applications; and low-power, high-speed electrical interconnects for chip-to-chip, chip-to-board, board-to-board, and rack-to-rack applications in high-performance computing and networking. The company has an extensive IP portfolio of these innovations available for licensing. For more information, visit [www.banpil.com](http://www.banpil.com).

CONTACT: Dr. Achyut Dutta, Banpil Photonics, +1-408-282-3628, [adutta@banpil.com](mailto:adutta@banpil.com)