

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

**SANTA CLARA, California - December 15, 2011** - Banpil Photonics, Inc., a leading company expanding tomorrow's technology through innovations in optics and electronics, today announced it has been issued with a new patent for its multispectral (also known as multicolor or broadband) image sensor technology. Banpil's broadband image sensor is capable of a broad spectral range (300 - 2500 nanometers) spanning from ultraviolet (UV) light, to visible light, to near infrared (IR), and as far as short-wave infrared (SWIR) regions.

The Banpil image sensor offers exceptionally high quantum efficiency exceeding 95% over a wide spectral range, high frequency response exceeding 10 GHz (@3 dB), and cross-talk below 0.1%. As an array of variable dimensions, each pixel in Banpil's sensor is rapidly and randomly addressable, and the sensor can be fabricated as either top-illuminated or bottom illuminated type detector as needed by application.

Significant advantages of the Banpil sensor innovation separating it from the pack is that it is uncooled, and its performance will not be degraded under wide range of temperature variation. This makes it ideal and even unique in multiple purpose applications such as telecommunication, imaging, and sensing applications including space spectrography, remote sensing, satellite tracking, advanced LIDAR systems, and defense and security applications such as high sensitivity surveillance cameras and night vision gear for our warfighters.

Banpil's multispectral image sensor will also have applications in consumer electronics like mobile camera phones and digital cameras enabled with night vision functionality, industrial applications like automobile sensors and machine vision, medical imaging applications such as disposable endoscopes and camera pills.

This is the fourth patent in Banpil's image sensor portfolio in the revolutionary technology, which the company sees replacing current image sensors. CCD and CMOS sensors are mature technologies that have revolutionized imaging in many applications. However, they 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, for instance.

"The Banpil sensor 4-in-1 band coverage of entire wavelength - near UV, visible, near IR, and SWIR in a single "monolithic" 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 imaging sensor requirements." The use of a single sensor with multifunctional capability can make applications small, light and of low-power requirement.

Banpil has made sample-level sensor array products available for demonstration by request. The company welcomes opportunities to work with application developers to explore new or enhanced applications including joint product development, licensing, manufacturing partnerships as well as camera IP core partnerships. Banpil is also actively seeking licensees, strategic partnerships with camera manufacturers, and investors.

**About Banpil Photonics, Inc.**

Banpil Photonics is expanding tomorrow's technology through innovations in optics and electronics. The company has developed an extensive IP portfolio of high-speed interconnects, multispectral image sensors, and high-efficiency photovoltaic technologies available for licensing. Banpil innovations enable the development and manufacture of next generation low-cost, high-speed electrical interconnects for chip-to-chip, chip-to-board, board-to-board, and rack-to-rack applications; multispectral image sensors for automotive & medical imaging, mobile, security, remote-sensing, and communication applications; and photovoltaic technology for solar cell applications. For more information, visit [www.banpil.com](http://www.banpil.com).

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