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Banpil Photonics, Inc. 4800 Patrick Henry Dr., Suite 120, Santa Clara, CA 95054 P: 408-282-3628 www.banpil.com

## Banpil achieves milestone 48 patents awarded in Patent Portfolio of Image Sensors, Photovoltaics, Energy Harvesting, & Interconnects

**SANTA CLARA, California, November 2, 2015** -- Banpil Photonics, Inc., a leading company expanding the boundaries of optics and electronics through innovations, today announced that it has achieved a milestone 48 patents awarded in its portfolio to date. Banpil's innovations represented in its impressive IP portfolio include technologies for high-sensitivity, high dynamic range, and fast frame rate Multispectral Image Sensors; low-power high-speed Interconnects including Optical Interconnects; energy harvesting, and high-efficiency Photovoltaic (PV or solar) cells. Banpil holds more than 100 issued or pending patents in its entire portfolio.

Among the latest Banpil patents since 2014 include seven issued for significantly high-efficiency photovoltaic cells, two issued for energy harvesting devices and their corresponding electronics, two issued for multispectral image sensor devices, and three issued for high-speed interconnects including two for on-chip and one for ultra-high-speed optical interconnects. These additions increase the multispectral image sensor portfolio to more than 15 patents including nano-enabled platform technologies common to image sensors and PV devices, which make it possible not only to see from visible into infrared spectrums with an uncooled monolithic imager, but also for the first time makes it possible to include energy generation in the same integrated device. This unique capability opens the door for sophisticated applications that can perform 24/7 on independent power sources that optimized the critical balance between size weight, power and cost (SWaP-C) in both commercial and defense applications. Banpil's high-sensitivity, fast frame rate and high dynamic range image sensors also have applications in automobile sensors for total driver vision in day and night, machine vision for quality control applications, and medical imaging.

The Banpil Interconnect IP portfolio, which encapsulates its high-speed interconnects platform technology, is by far the most advanced available today. It now totals over 25 patents in the company's overall interconnects patent portfolio, which addresses the bottleneck between signal conversion between optics and electrical components to accommodate both in current and future high-speed systems requirements.

"We are extremely pleased to achieve this milestone. We have already shown the significant performance enhancements and benefits to customers that our technologies are capable of providing," said Dr. Achyut Dutta, Banpil's CEO. "The patent additions to our portfolio will allow us to readily work with other technology companies in joint R&D to develop next generation applications or to license our patent portfolio for their own application product development." Banpil has made sample-level products available for demonstration. The company welcomes opportunities to work with system vendors to explore new or enhanced applications, technology licensing, strategic manufacturing partnerships as well as investors.

## **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 available for licensing. For more information, visit <a href="https://www.banpil.com">www.banpil.com</a>. CONTACT: Dr. Achyut Dutta, Banpil Photonics, +1-408-282-3628, <a href="https://www.banpil.com">adutta@banpil.com</a>.