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HEADLINE: Bodkin Design awarded contract to develop Hyperspectral 3-D Imager for U.S. Air Force

WELLESLEY, MASSACHUSETTS

Bodkin Design and Engineering, LLC has been awarded a \$99,999 contract from the U.S. Air Force to develop a Hyperspectral 3-Dimensional Imager. This 9-month-long project is sponsored by the Air Force Research Laboratory at Hanscom Air Force Base in Lexington, MA and funded under the Small Business Innovation Research (SBIR) program. A prototype visible/near-infrared hyperspectral imager will be demonstrated.

The Air Force is interested in hyperspectral imaging, or imaging spectroscopy, because it is an important technique for remote sensing. While a conventional color image has three colors per picture, a hyperspectral image can have hundreds of colors. Hyperspectral imaging combines the spatial image with spectral analysis to build up a three-dimensional data cube (two dimensions of the data cube are spatial and the third dimension is wavelength). The vast amount of information contained in these images allows for more accurate detection of materials and objects.

There are several methods currently available for acquiring hyperspectral images, but they are limited in their ability to satisfy the military's need for speed, accuracy and ease of use. The innovative device being built by Bodkin Design & Engineering, LLC will capture spectral and spatial information in one instantaneous video frame. It has no moving parts and provides high-resolution spectra in a compact, ruggedized, low-cost package. This technology will improve standoff detection, materials identification, and the quantification of atmospheric constituents and effluents.

Key applications include autonomous material identification, chemical defense, missile defense, and homeland security. Hyperspectral imagery also finds application in geologic mapping, biological research, medical imaging, cancer screening and in clinical instrumentation. BD&E's highly sensitive design can provide the instrumentation for these applications in a simple, low-cost, robust package.

About Bodkin Design & Engineering, LLC

Bodkin Design and Engineering, LLC's headquarters in Wellesley, Massachusetts, provides product development, innovation and engineering services to the industrial, commercial, military and research communities. Founded in 1992, the firm has developed numerous patented devices and has overseen the successful introduction of a diverse spectrum of products, ranging from miniature infrared cameras to spectroscopic instruments for drug discovery. To learn more visit our website at www.bodkindesign.com.