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**HEADLINE: Bodkin Design Awarded Contract to Develop Dual-band Hyperspectral Imager for Missile Defense Agency**

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**NEWTON, MASSACHUSETTS**

Bodkin Design & Engineering, LLC has been awarded a \$750,000 contract from the U.S. Missile Defense Agency (MDA) to develop a dual-band, stand-off detector with both mid-wave infrared (MWIR) imaging and short-wave infrared (SWIR) hyperspectral imaging capabilities. This 24-month-long project is funded under the Small Business Innovation Research (SBIR) program. A prototype dual-band system will be demonstrated.

While a conventional color image has three colors per picture (red, green, and blue), 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.

Key applications include missile defense, chemical defense, autonomous material identification, 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**

Bodkin Design and Engineering, LLC has been providing concept development, and design and build services since 1992. Headquartered in Newton, Massachusetts, the company serves the international OEM, commercial, military, and research communities. Specializing in visible and infrared cameras and imaging spectroscopy, BD&E has overseen the successful introduction of products ranging from miniature infrared cameras and dental imagers to spectroscopic instruments for drug discovery. To learn more, visit the website at [www.bodkindesign.com](http://www.bodkindesign.com).

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