

# Military & Aerospace Electronics®

## Satellite launched Saturday to provide color and multispectral Earth imaging

DULLES, Va., 7 Sept. 2008. The [GeoEye-1 multispectral imaging](#) satellite from GeoEye Inc. in Dulles, Va., launched 6 Sept. from Vandenberg Air Force Base, Calif., will [orbit the Earth's poles](#) to capture detailed digital images, and can revisit any point on Earth once every three days or sooner.

The spacecraft will collect images with a ground resolution of 0.41-meters or 16 inches in color or black-and-white mode. It will collect multispectral or color imagery at 1.65-meter resolution with four-band multispectral imaging for military, homeland security, local government, energy, mining, and mapping applications.

The GeoEye-1 multispectral imaging satellite launched Saturday from Vandenberg Air Force Base, Calif.

GeoEye's ground station in Norway relayed the downlink signal it received from GeoEye-1 confirming that the satellite separated from the second stage of the launch vehicle and began automatically initializing its onboard systems. "The satellite is performing properly and ready to begin the next phase towards meeting its mission requirements," says Bill Schuster, GeoEye chief operating officer.

GeoEye-1 is part of the National Geospatial-Intelligence Agency (NGA) NextView program to provide geospatial intelligence in support of national security. GeoEye won its \$500-million NextView contract in September 2004.

The two-ton, two-story-high spacecraft can train its ITT camera on several targets during one orbital pass and can rotate or swivel forward, backward, or side-to-side. Its optical telescope, detectors, focal plane assemblies, and high-speed digital processing electronics can process 700 million pixels per second.

GeoEye-1's camera allows for side-to-side extensions of the camera's 9.44-mile swath width or several images of the same target during one pass to create a stereo picture. The camera and electronics represent a five-times gain in power efficiency, a 10-times improvement in weight efficiency and 3-times advance in cost efficiency, company officials say.



Those using data from the satellite can map ground features to within nine feet of actual location without ground control points. GeoEye-1 will make 15 orbits per day from 423 miles above the Earth's surface.

The satellite can collect color images from as many as 700,000 square kilometers in one day -- an area about the size of Texas. In the multispectral mode the satellite can image 350,000 square kilometers per day.

GeoEye-1 will offer basic, ortho-rectified, or stereo imagery as well as imagery-derived products, including digital elevation models and digital surface models, large-area mosaics ,and feature maps.

GeoEye-1 was built by General Dynamics Advanced Information Systems in Gilbert, Ariz. The imaging system was built by ITT in Rochester, N.Y. ITT is also building the imaging system for GeoEye-2 set for launch in 2011. The 4,310-pound satellite launched on a United Launch Alliance Delta II rocket. For more information contact GeoEye online at [www.geoeye.com](http://www.geoeye.com).