



By Owen D. Kurtin

Government Use of Commercial Imaging

This column has devoted substantial attention this year to the growth of U.S. government/Department of Defense procurement of commercial satellite capacity and network solutions, but mostly in the context of fixed and mobile satellite services. The increasing use of commercial Earth imaging services is just as significant.

While satellite imaging has become familiar from Google Earth and other services, it is important to note that defense and security applications are not the only reasons for government to invest in commercial satellite imaging service. Environment and climate change; agriculture; mining; disaster preparedness, assessment and response; meteorology; oil and gas; traffic; real estate and land use planning; demographic patterns; and education are among the areas impacted by high-resolution satellite imaging.

In 2003-2004, the U.S. National Geospatial-Intelligence Agency (NGA) put in place its NextView contracts for the development of new high-resolution imaging satellites, with one award for GeoEye Inc. and one for DigitalGlobe Inc. Pursuant to the NextView contracts, the NGA was to receive priority pricing and access in return for paying half of the satellites' development costs. GeoEye-1 and DigitalGlobe's Worldview-1 are operational and providing the NGA with a steady stream of millions of square kilometers per month of unclassified satellite imagery. In terms of performance, completion on budget and time, and filling a gap in existing government capability, the NextView satellites are a significant government procurement success story.

On April 7, Dennis C. Blair, the U.S. Director of National Intelligence, announced an overall imagery "Way Ahead" plan for U.S. electro-optical imagery as part of an over-

haul of the government's satellite imaging capability. Blair oversees 16 government intelligence gathering and processing agencies and reports directly to the President and the National Security Council. Included in the "Way Ahead" directive was a plan for increased utilization of commercial satellite imagery, especially key because it may be a

decade before the next generation of military satellites becomes operational.

In August, following the directive, the NGA issued a statement of requirements to obtain industry input and guide its own strategic planning purposes. The industry expects formal requests for proposals later this year, with multiple awards anticipated in early 2010. Reuters reported in August that the new satellite imagery procurement process could lead to billions of dollars in orders over the next five years, starting in 2010. GeoEye and DigitalGlobe likely will be among the beneficiaries.

The current state of the art is high. GeoEye-1 provides imagery for government customers with a ground resolution of 41 centimeters (16 inches). Worldview-1 provides imagery with a resolution of 50 centimeters, and a soon-to-be launched satellite should provide a resolution of 46 centimeters (U.S. policy requires resampling of images to a half-meter resolution for commercial customers). More significantly than the sheer imaging resolution of these satellites, which is what often is mentioned in the media, is that each pixel in each image is mapped with a distinct latitude and longitude, locating that pixel to within 23 centimeters on the surface of the earth. While highly classified military spy satellites can be assumed to have higher resolution and mapping than their commercial counterparts, it is hard to believe that the delta between their capabilities and those of the commercial satellites is meaningful for most practical applications, which, along with the expected next-generation military satellite delay and the sheer volume of imaging missions, explains the interest of the U.S. military in using commercial capability.

One interesting question is the theoretical, practical and moral limits of imaging technology. According to industry experts, the capabilities familiar from spy films to read a license plate does not exist. So far, satellite imaging has not generated much in the way of privacy concerns, perhaps because more readily apparent terrestrial surveillance has become so ubiquitous in the post-9/11 world. As satellite resolution — at least, the unclassified capability — improves beyond the half-meter range, it will be interesting to see whether those concerns increase. It also will be interesting to see what good government can do with the wealth of information commercial imaging will provide. ▀

Owen D. Kurtin is a founder and principal of private investment firm The Vinland Group LLC and a practicing attorney in New York City. He may be reached by e-mail at okurtin@vinlandgroup.com.