

GEOEYE – MAPPING THE WORLD'S AIRPORTS

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GeoEye is a leading provider of satellite, aerial and geospatial information. The company was formed as a result of the ORBIMAGE acquisition of Space Imaging in early 2006. GeoEye operates a constellation of Earth imaging satellites, mapping aircraft and has an international network of ground stations, a robust imagery archive, and advanced geospatial imagery processing capabilities. When GeoEye successfully launched the IKONOS satellite in 1999, it made history with the world's first one-meter commercial remote sensing satellite. The Company plans to launch its next-generation Earth imaging satellite, GeoEye-1, from Vandenberg Air Force Base, California in the coming months. GeoEye-1 will be the world's highest resolution and most accurate commercial imaging satellite with a ground resolution of 0.41-meters.

In addition to operating imaging satellites, GeoEye is a world-wide leader in advanced image processing and photogrammetry. GeoEye produces a broad spectrum of geospatial products from a wide variety of satellite and airborne sensors. The presentation focuses on how GeoEye's products can be used in support of aviation safety and airport management.

Both IKONOS and GeoEye-1 high resolution satellites offer single pass stereo image collection. The process lets users acquire 2D and 3D geospatial databases for planning, construction, operational and surface movement projects. The flexibility of the satellites to revisit an airport frequently offers customers a reliable source for acquiring new imagery when unexpected events occur that affect the safety of flight operations or surface movement operations. GeoEye has carefully assembled a complete product suite to support airport operations under normal or emergency conditions. This includes

- Monoscopic imagery
- Stereo imagery with elevation extractions
- Complete Airport Mapping Database for any airport.

An Airport Mapping Database (AMDB) is a geospatial database that contains significant features of an airport such as runways, taxiways, buildings, obstacles and terrain surrounding an airfield. The databases are constructed from single orbit multispectral stereo imagery in accordance with requirements published by the RTCA known as DO-272, "User Requirements for Aerodrome Mapping Information". In order to meet sub-meter accuracy requirements for runways precise ground control of runway ends is essential.

Such Airport Mapping Databases are used by Civil Aviation Authorities to perform obstacle analysis in the vicinity of the airport to meet international and domestic requirements. Those databases can then be used to create an assortment of valuable charts. Airport Authorities use AMDBs to design and enhance Surface Movement for routine or low-visibility operations. Taxiing routes can be optimized to maximize flow efficiency and to minimize the chance of runway incursions. Airport Operators use AMDBs to supplement ground surveys, and plan, visualize and implement routine and emergency airport management. Changes detected on new imagery can be communicated to the user community at those airports in the form of modified graphically updated databases. For visual simulation database developers or users, orthorectified tonally balanced, and mosaicked IKONOS or GeoEye-1 imagery is the ideal building base for all types of visual simulation databases.