NGA Scene Visualization Scores Big at World Cup

By Jay D. Krasnow

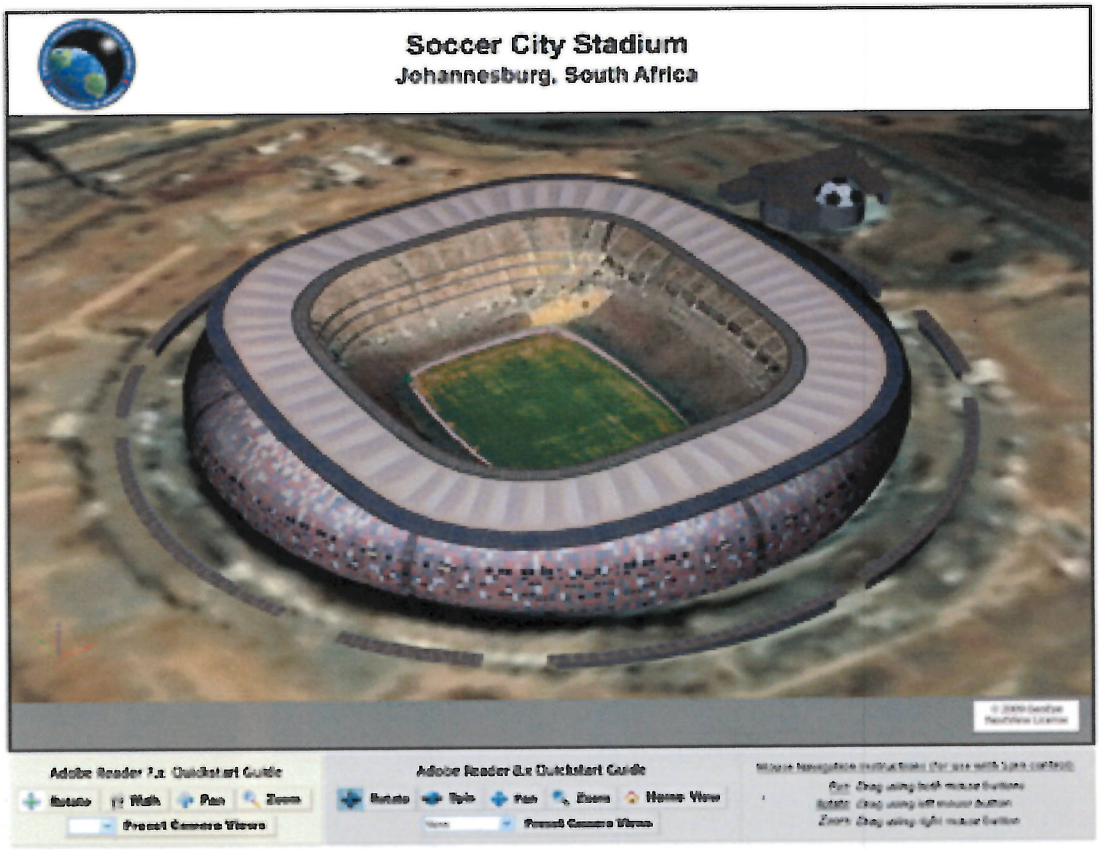
A year before 3 million fans arrived in South Africa from across the globe to attend one of the largest international sporting events in the world, the 19th FIFA World Cup soccer tournament, the National Geospatial-Intelligence Agency began providing critical geospatial intelligence to support the massive effort.

One GEOINT technology played a crucial role. Digital scene visualization can be used to enable event planners and security officials to prepare for a variety of threat scenarios and conduct vulnerability assessments that can help prevent disaster. Analysts merge imagery with geospatial data sources to generate 3-D fly- and walk-throughs, line-of-site and view-shed analyses and other interactive models. Carefully crafted scene visualization proves especially useful to event planners by enabling them to view a site from multiple perspectives, including overhead, even when miles away from the location.

Creating a scene visualization for an event such as the World Cup is no easy task. It can take from several days to several months to develop a single product, according to an advanced scene visualization specialist who worked on NGA's World Cup products.

"It all depends on the level of detail required," said the NGA scene visualization specialist.

Bringing the pieces together in time for the soccer competition presented many challenges, said NGA's World Cup team lead. "Acquiring the data at the unclassified level for both U.S. government personnel and our foreign partners is challenging at times.



This image is a screen capture from NGA's 3-D scene visualization of the Soccer City stadium in Johannesburg, South Africa. The scene visualization is not static, it is an animation run from a database, giving the user the ability to zoom in and out, change the look angle and fly or drive around the structure.

This is an aerial photograph of the actual Soccer City Stadium in Johannesburg, South Africa.

Usually we coordinate at least a year in advance—sometimes two years in advance—so that we can support the event effectively," said the team lead.

NGA scene visualization can assist event planners in several important ways. For example, these powerful 3-D tools can help event security officials determine the location and length of security perimeters around a stadium and the most suitable locations for stadium gateways. These NGA products can also assist event officials in managing crowds by providing the situational awareness needed to direct resources towards areas of greatest concern.

"The scene at the World Cup was dynamic, so we provided dynamic products to assist our partners when they needed our support in making decisions about road closures, motorcade routes and other operational requirements," said an NGA GEOINT officer who supported the tournament.

When the scene visualizations were ready, agency partners could view unclassified versions using GoogleEarth™, a common Internet geospatial tool. NGA developed about a dozen visualization products for World Cup event planners.

"When I create a product, I'm happy if it's helpful. But once it's done, I'm on to the next one," said the advanced scene visualization specialist who helped develop NGA products for the World Cup.

The safe completion of the soccer competition suggests just how helpful the products proved to be. P

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