

#### 4.3.1 Trials and Tribulations of Completing the World's Largest Orthophotography Project

**Presenter**

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The Dallas District of the Texas Department of Transportation contracted with Bohannon Huston, Inc. to complete Digital Orthophotography and a corresponding two-foot surface model for the complete 17-county area of the North Central Texas Council of Governments area that includes the Dallas-Ft. Worth metroplex. This project is the largest digital aerial project completed with the Intergraph DMC camera covering over 13,700 square miles at six-inch pixel resolution, requiring over 55,000 individual exposures to be processed. The BHI-TxDOT partnership deployed three DMC sensors to the project area for acquisition, used cluster computing to process the imagery, and produced the surface model with a refined auto triangulation technique perfected by BHI for the DMC camera.

This presentation will detail the innovative processes employed to complete the project in less than one calendar year. Discussion will include the real time communication on public websites to continuously update all the stakeholders in the project's progress, techniques for acquisition and processing the data in record time, and the quality assurance requirements to guarantee the product delivery. Also included in the presentation is an in-depth discussion of the auto correlation process, the accuracy expected and achieved, areas where the process worked well, and comparisons to traditional LiDAR surfaces. Finally, information will be delivered on the unique data distribution system developed for this project to maximize the return on the investment for the TxDOT engineering community.