

## I2IA: Image to Intelligence Archive

### Intelligent Agent Based Large-scale Spatial Data Management and Analyses

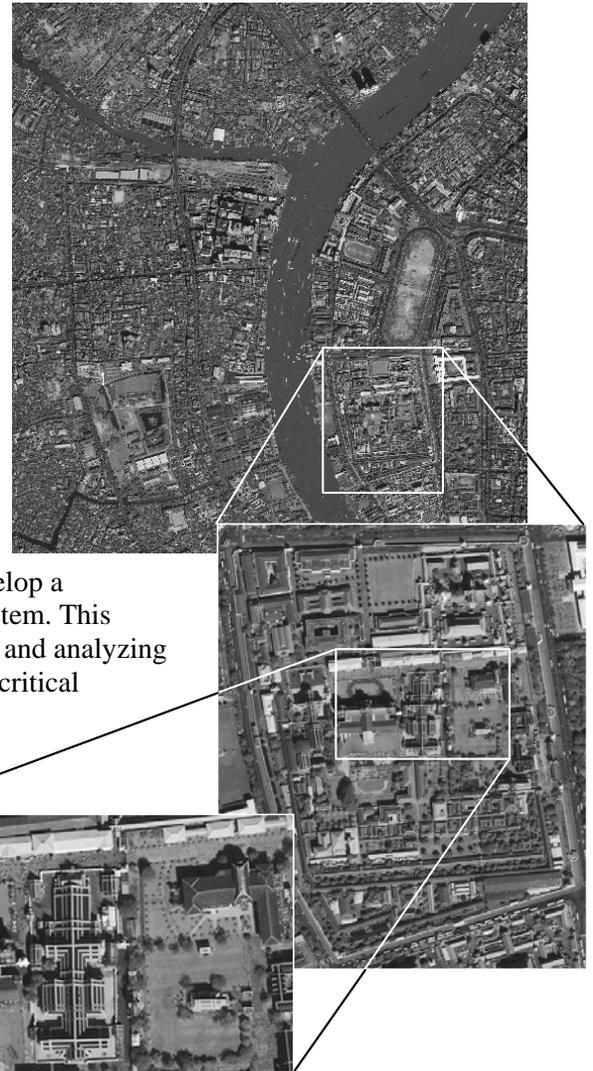
Enormous volumes of image data are being produced that are not only required for developing spatial or geographic data, but are also critical for military and intelligence applications especially suited to addressing national security. Images are not only critical for situation awareness and assessment purposes, but they are invaluable for detecting changes and providing relevant information to decision makers.

Unfortunately, there are few trained analysts to perform this task. House Select Intelligence Committee Chairman Porter Goss “That there is a persisting shortage of trained intelligence analysts who must sift through the giant haystack of information we collect to find the little needles that are really important”

Added to this is the lack of comprehensive tools that can allow fast and efficient processing of information from voluminous image data. Consequently much of the staggering collection of information is not utilized or significantly underutilized.

To solve this challenge, we bring together three ORNL areas of expertise, namely software agent technology, georeferenced data modeling, and image analysis to develop a comprehensive image data management and analysis system. This system will allow us to meet the challenge of organizing and analyzing vast volumes of image data to effectively synthesize the critical information required to support national security needs.

The goal is to 1) autonomously search through distributed image data sources and retrieve new and updated information, 2) model the data for temporal currency and structural consistency to maintain a dynamic data archive, and 3) analyze the data using region segmentation and feature extraction image analyses tools.



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