Icaros Oblique Image Viewer and Measuring Tool for ArcGIS

Icaros, a provider of advanced aerial remote sensing and 3D visualisation solutions, has introduced the Icaros Measurement Tool (IMT), a photogrammetric visualisation application based on ArcGIS technologies, at the 2014 Esri User Conference. The IMT enables customers working within Esri's GIS environment to view and measure structures in oblique aerial imagery captured by any commercial oblique sensor system, including those from Pictometry, Vexcel/Microsoft, IGI, Leica Geosystems and Midas, as well as oblique sensors mounted on UAVs.

Icaros is opening the oblique imagery market to all GIS users by building its IMT's coming functionality upon Esri's Arc Engine, said Richard Baumgartner, vice president of business development at Icaros. IMT lets users unlock the full potential of their imagery by combining 3D analysis capabilities with their GIS data, he added. IMT is specifically designed to make highly accurate vertical and horizontal 3D measurements of structures and surfaces, including calculating distances, areas, slopes and azimuths in complex 3D features.

Local and state government

For too long, Baumgartner explained, oblique imagery has been limited by proprietary collection systems and metadata formats. Usage beyond tax assessment and public safety applications is very rare. The Icaros vision is to expand the use, visualisation and analysis of oblique aerial images into the entire spectrum of the GIS market with special focus on local and state government segments. Beyond tax assessment and public safety, oblique analysis of structures can be beneficial to a host of new applications such as; facility management, pipeline corridor infrastructure monitoring, energy audit, economic development, and asset management. In addition, as Esri users continue the move to 3D, oblique imagery will be critical for constructing accurate, image-based realistic 3D models.

Icaros has done a terrific job designing easy-to-use yet highly sophisticated measurement tools for any client wanting to do 3D oblique measurements, said Paige Parker, vice president at Control Cam, an Icaros distributor serving the state and local markets. Not only are these tools well developed, but they are integrated completely within Esri's ArcGIS platform, which is a critical advantage for clients.

Imagery and GIS

IMT enables users to manipulate and view oblique imagery while leveraging other geospatial data layers within their GIS environment. This capability allows users to navigate multi-image scenes in three dimensions while zooming and panning. The software also provides an optional Icaros Digitizer Tool (IDT). IDT provides additional tools to extract physical building structures and digitise them into open format models, such as Collada, Obj, and Ply, textured from the source imagery, said Baumgartner. Automated 3D model generation from oblique imagery is at the intersection between imagery and GIS.

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