

KASView's exposure selection utility uses Virtual Earth to display availability of recent and historical data.

When Keystone Aerial Surveys, Inc. acquired their first Vexcel UltraCam digital aerial mapping camera in 2005, the company was faced with numerous challenges. The move to a digital collection environment dictated new acquisition procedures and processing workflows. With over forty years of aerial survey know-how, Keystone had a wealth of experience to draw on in making the transition to digital image acquisition. But the company also faced the daunting task of finding ways to manage and distribute massive volumes of digital image data. Keystone has met that challenge with KASView, a web-based tool for searching the company's rapidly growing image library.

Keystone, now operating three Vexcel UltraCamX mapping cameras in addition to twelve metric film cameras, has to-date acquired high-resolution, digital, four-band stereo imagery of nearly 300 North American cities. With a resolution of 15cm or 30cm, 80 to 90 percent forward overlap and 60 percent side overlap, the imagery is a valuable resource to users in a wide variety of industries, including photogrammetry, local and regional government, utilities, and real estate. However, at nearly 400 TB, the sheer size of the image library mandated new efficient search and discovery tools.

To meet their customer's image search needs, Keystone IT Director David Day and Web Developer Craig Repoli set out to find a development platform for an easy-to-use image search tool. After an extensive search of server-side

and web-based tools, they selected Microsoft Virtual Earth as the foundation for KASView, Keystone's new online image catalog and search tool. "Virtual Earth has several key advantages over the other solutions we looked at," says Day. "It has extensive location search capability built-in, making it easier for our customers to find their areas of interest. And the Virtual Earth image base has good spatial accuracy which is important for the accurate overlay of photo centers." Adds Repoli, "The Virtual Earth development environment gives us the ability to overlay project area shapes, flight lines, and exposure locations. Overlay is a key capability for our customers who need to identify the specific photo centers covering their project area."

When logging into KASView (www.kasview.com), users can select imagery by city, state, and year of flight. Or, users

can locate an address or latitude/longitude coordinate with the Place Finder tool. Having navigated to their area of interest, users can select specific exposure centers and view the coverage area for each exposure. For those familiar with GIS, KASView also allows uploading of shapefiles to help identify applicable projects and automatically select the imagery that covers their area of interest. KASView displays attribute data for the selected flight and exposures, including date, resolution, total image count, and the availability of IMU and airborne GPS data, information of particular value to photogrammetrists.

KASView users have found the interface to be intuitive and powerful. "With KASView, we can quickly determine the exact photo centers needed for stereo coverage of our project areas," says Steve Benner, President of AviaTerra Geospatial, a Keystone business partner. And the UltraCam imagery itself has earned rave reviews. "The combination of high resolution and multi-spectral capability with the IR band lets us create powerful image-derived products" says Benner, citing applications in impervious surface classification and land use change detection as just two of the potential uses of the UltraCam imagery.

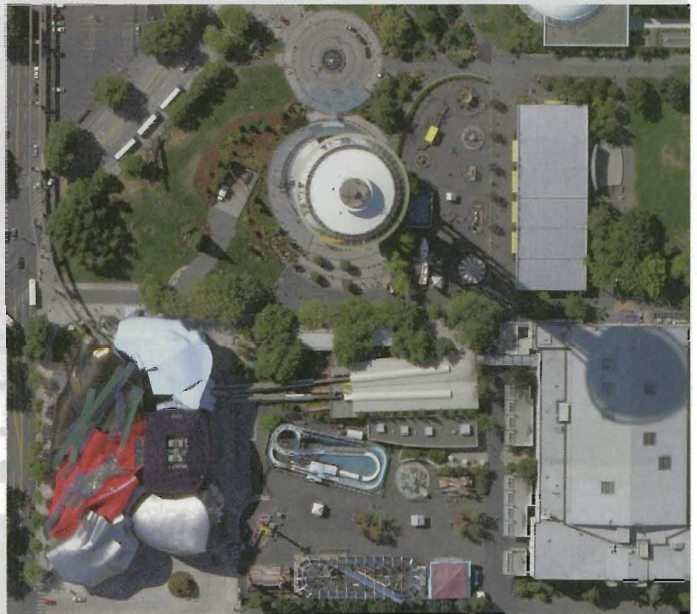
Ken Potter, part owner of Keystone, sees a bright future for KASView. "We're already expanding the library of imagery and data accessible through KASView. We've begun to add coverage areas for our airborne magnetometer data. Our

huge library of film-based imagery is next. With over forty years of image archives, we expect to see a lot of interest in using KASView for historical imagery research and change detection."

Beyond using KASView as a portal to their own image archives, Keystone envisions offering KASView as an image index and search service to their customers and partners who have large image libraries of their own. "We don't have to actually scan film-based imagery to index it on KASView," Potter explains. "By overlaying photo centers to the Virtual Earth image base, we can quickly provide an index to our partner's libraries." And the KASView application, already in use, provides a ready-made solution for aerial survey firms not wishing to create their own image access solution.

David Nale, CP, CMS, PLS, president of eMap International and a consultant to Keystone remarks, "Keystone, through its KASView technology, has integrated state-of-the-art digital aerial acquisitions systems with equally state-of-the-art web tools to provide its customers with innovative solutions not before seen in the aerial acquisition business."

Interestingly, the Virtual Earth image base that serves as a backdrop to KASView is featuring more and more of Keystone's imagery. The nearly 300 cities for which Keystone has acquired UltraCam imagery were flown for Microsoft Virtual Earth, meaning that users searching to acquire imagery for mapping projects or orthophoto production will soon see a preview of the imagery in KASView.



The Seattle Space Needle, cropped from an UltraCam image available through KASView.

To see KASView for yourself, visit www.kasview.com. Or for more information on KASView, Keystone's high resolution UltraCam imagery, or Keystone's nationwide image acquisition capabilities, visit www.keystoneaerialsurveys.com.

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Keystone Aerial Surveys, Inc. (KAS), a woman owned business, specializes in providing quality aerial photography and remote sensing surveys.

Our Flight Department provides high-resolution aerial imagery in both film and digital acquisition, with ABGPS and IMU collection upon request. KAS offers experienced, professional crews with high quality equipment: 3 Vexcel UltraCamX large-format digital sensors, 12 Metric Film Cameras (6", 8.25" & 12" lens cones), 3 Applanix 510 POS/AVTM IMU Systems, 2 airborne magnetometers, and fourteen survey aircraft including a Cessna Conquest II with dual sensor capabilities.

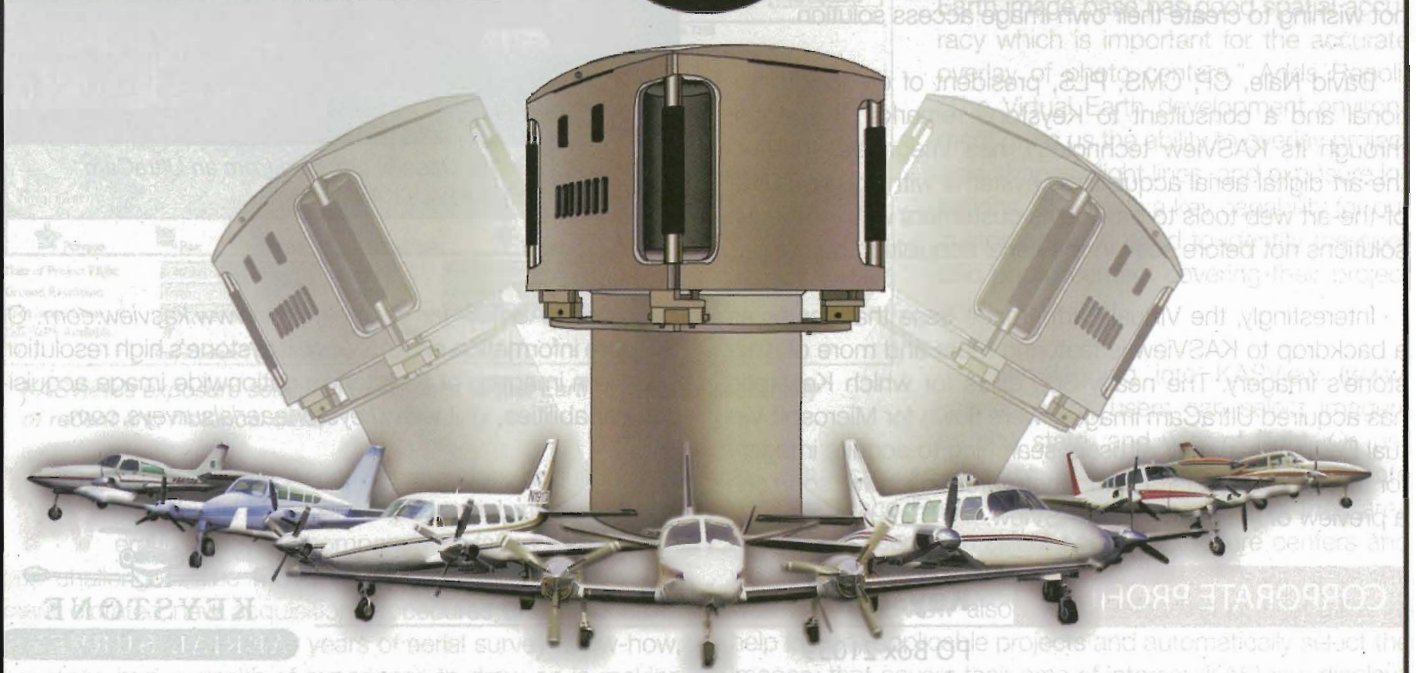
Our Photo Lab provides full color and black-and-white custom products from our extensive digital and film library. We offer scanning via our 4 Leica DSW scanners and digital enlargements as well as made to order mosaics.

Due to the availability of so many survey crews, aircraft, and the latest sensor and GPS navigation equipment, we get maxi-

imum benefit from limited weather or sun angle. KAS provides you with the added assurance that your survey will be completed on time. Although we are based in Philadelphia, PA and Benson, AZ, our survey crews operate throughout the entire continental United States, Mexico, and Canada.

Over the last four decades, Keystone has continued to refine and improve our existing acquisition processes while creating a new digital processing workflow to respond to the increasing need for fast, accurate delivery of large area collects done with our Vexcel UltraCam. We have created web tools to update and inform our clients as to flight project status as well as FTP delivery of digital files where size permits.

Our web presence, www.kasview.com, allows our customers to view our digital, film, and aeromagnetic archives geographically. Our digital library is offered in a variety of products, from 8bit PAN to 16bit RGBI. This extensive digital library boasts over 300 cities and is updated regularly.



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