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Oblique imagery was provided when Pictometry flew the Presidential Palace in Haiti after the 2010 earthquake, providing disaster response teams with unparalleled detail and accuracy on the situation.

If a disaster is happening on the ground, chances are, the Pictometry team is hovering above, transmitting real-time critical information to facilitate rapid response and ultimately save lives. With a 73-plane fleet equipped with ultra high resolution imaging gear and satellite communications, Pictometry has successfully made an international name for themselves in the emergency response industry.

PHASE III SUCCESS
Over $2 million through contracts with the Department of Homeland Security; over $3 million in indirect sales resulting from the SBIR technology

AGENCIES
DHS

SNAPSHOT
Pictometry captures over 30,000,000 images per year in all 50 states, as well as in Canada and internationally. Domestically, Pictometry's imagery covered nearly 90% of the homes in America.

PICTOMETRY INTERNATIONAL, CORP.
100 Town Centre Drive, Suite A
Rochester, NY 14623

www.pictometry.com

Prior to securing an SBIR with the Department of Homeland Security for the development of an innovative new real-time emergency response system, Pictometry had worked for DHS, flying post-Hurricane Katrina with its original imaging technology. By capturing data from above, analysts on the ground could determine a variety of essential information on flooded areas, bridges and roads to avoid, and determine viable exit strategies. While Pictometry's work during the aftermath of the catastrophic storm provided this essential data, processing time was a hindrance. Images were captured, and then planes had to land so the images could be processed on the ground. This led DHS to issue a new solicitation on real-time emergency response. Pictometry immediately began developing a solution, and successfully embarked on its SBIR work with the agency.

"The goal was to get aerial imagery quickly into the hands of first responders," explains Stephen L. Schultz, Chief Technology Officer at Pictometry. "The raw sensor data had to be processed inside the plane, with high speed radio links to transmit the images to the ground. The tracking dish, stationed on top of a truck, would follow the plane as it flies."

In the Phase II project, Pictometry successfully demonstrated a working prototype during a test flight in West Virginia, using technology from Harris RF, whom they had worked with during the Phase I portion. A follow-up test included a simulated earthquake, where the prototype picked up images from the disaster site and relayed them immediately to first responders.

Pictometry has since been awarded a Phase III contract with the Department of Homeland Security, where they will install a RAMS system on a civil air patrol aircraft in support of the Federal Emergency Management Agency (FEMA). Damage mitigation is a key goal for FEMA. To illustrate, when flooding occurs and FEMA is inundated with temporary housing requests, they can immediately look at the imagery as opposed to sending out costly

assessors, and issue victims a check on the spot. Since Pictometry is constantly capturing imagery and data from above to keep its technology current, images can always be compared in a pre/post compilation. In addition, every pixel of the imagery is georeferenced, meaning that a user can click on any area of the image and get its exact coordinates in physical space. Adding this layer of information to the image turns data into knowledge.

Commercially, the applications for Pictometry expand as far out as its eagle-eyed view of the world. The company is currently contracted with Alabama Power, in what showcases the immense potential in the utility field for damage mitigation. Prone to hurricanes, tornados and other natural disasters, the company has set up four receiving units with the vision that when a storm does occur, Pictometry will be there with a fleet to capture images in real time. This will supplement Alabama Power's existing response in undertaking damage assessment activities where lines are down across a large geographical area, to assist and support crews on the ground. This all aids in rapid power restoration – an immensely attractive feature for power companies and residents alike.

With over 1,200 county customers and counting, the product and service that Pictometry provides is utilitarian to say the least.

"At one point, we had three county customers in Iowa," recalls Schultz. "When the Mississippi River flooded, we were working for Cedar Rapids. Once we flew the area and provided the counties with the data, they were so appreciative that they told their neighbors. We now have 80 county customers in Iowa."

Pictometry has since brought a new angle to its SBIR technology – oblique photogrammetry. Pictometry's patented software allows locations and measurements to be extracted from the images, which are captured at an angle to reveal the world from a more natural perspective so objects are easier to recognize and interpret. With resolutions better than 3-inch Ground Sample Distance (GSD), users can see meticulous detail while viewing every feature, structure and parcel from North, South, East, West or straight down. Pictometry's software allows for a side-by-side comparison of an image, with the before and after views, for an added layer of assessing damage.

911 centers are also utilizing Pictometry's technology to pinpoint persons who need assistance. Although most smartphones have GPS, many times it is not enabled. By using imagery that is georeferenced, emergency call centers have located individuals in distress and have saved lives by dispatching first responders within the critical window of time.

Based in Rochester, New York and employing 251 workers, Pictometry has a defined set of goals going forward. By focusing on helping FEMA, along with the broad potential in the utility sector and some international aspirations, the company is positioning itself as the preeminent company on providing the "big picture."