*Technology Opportunity*

Windows®-Based Scaling and Measurement Software for Photographic Images

The National Aeronautics and Space Administration (NASA) seeks to license a Windows®-Based Scaling and Measurement Software for Photographic Images. Developed at the John F. Kennedy Space Center (KSC), FL, this tool is used to measure the length of objects in photographs (digital images). Remote measurement of small features on an object can be accomplished by projecting a set of parallel laser points on the object with NASA's Scaling Device, where the distance between points is a known value. By first acquiring a digital image of the object's features with the superimposed laser points, the size of the object's features can be found by processing the digital image using appropriate software. The software first calibrates the laser points and then transfers the calibration to the features to be measured and scales the unknown dimensions. The software was developed so that Shuttle Operations personnel could take photographs of hail impact sites on the External Tank Thermal Protection System and determine the size of the resultant foam insulation damage.
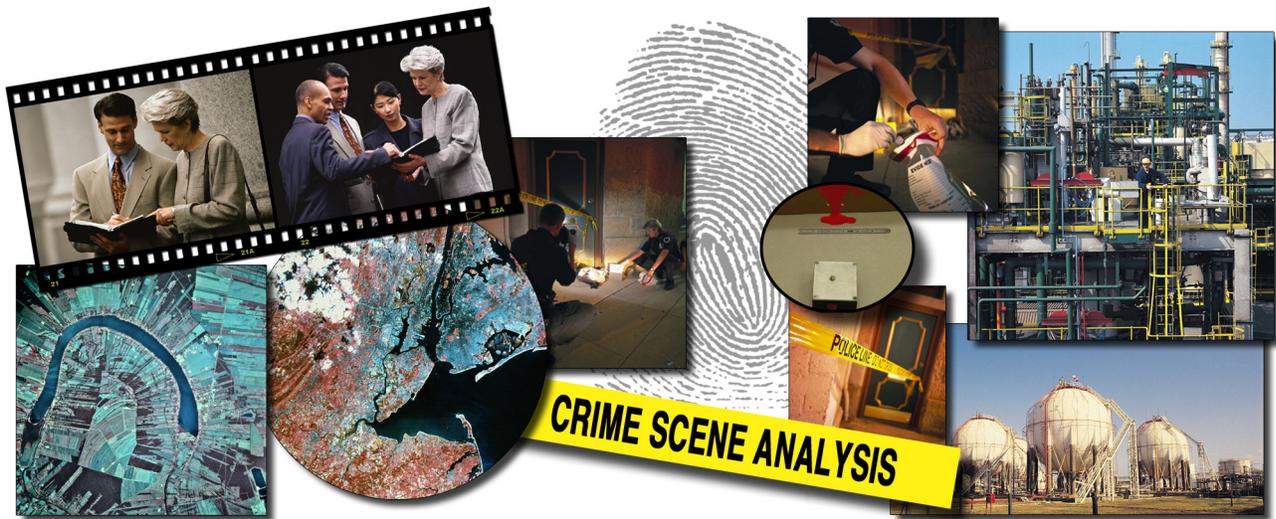
Potential Commercial Uses

• Photography

• Crime Scene Investigation

• Aerial Mapping

• Oil and Chemical Tank Monitoring

• Digital Image Analysis

Benefits

• A useful tool for anyone who analyzes objects in digital images.

• A simple and inexpensive scaling device that improves upon traditional tape measure and ruler approaches to scaling images.

• Provides an inexpensive means for preliminary inspection work to detect corrosion, damage, and reconstruction work for oil and chemical tanks.

• Easily installed on computers and is Windows®-based for compatibility with other programs.

Explore. Discover. Understand.

The Technology

The software was developed to work with the Scaling Device, a tool that attaches directly to a charge-coupled device (CCD) or film camera and projects a known distance pattern (two laser points, 1 inch apart) into the field of view of the camera.

After installing the software, the user opens a dialog window and sets a known distance between two laser points in the image by inserting two +'s on or near each point. (A)

Next, the user opens the "Set Actual Distance" window and inserts the known length in inches. (B)

The user measures other objects in the image by creating a measurement line between two points by clicking and dragging the mouse between the starting point and the final destination point. Once released, a rectangle is displayed with a diagonal line corresponding to the measurement line. The distance between the two points of this line is instantly displayed. Additional measurements are shown vertically and horizontally. (C)
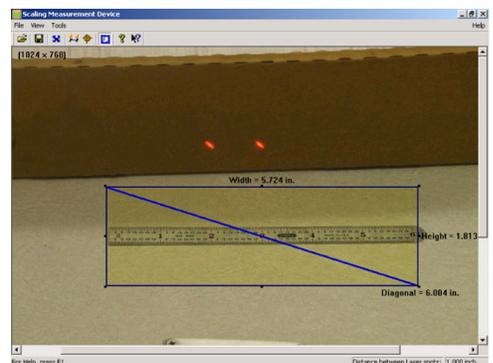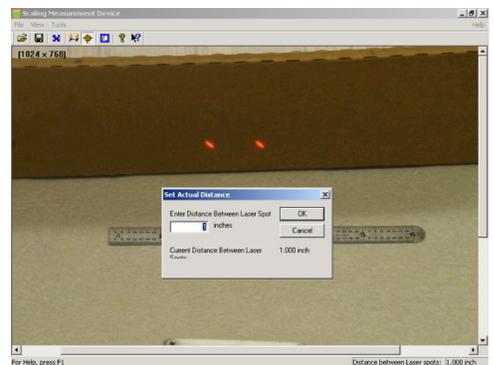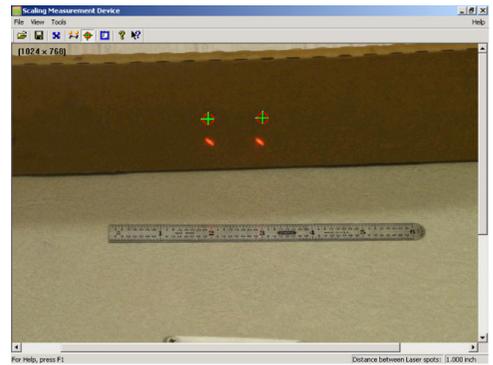
Options for Commercialization

NASA seeks qualified companies to commercialize the Windows®-Based Scaling and Measurement Device for Photographic Images. This and other technologies are made available by the KSC Technology Commercialization Office through a variety of licensing and partnering agreements. These include patent and copyright licenses, cooperative agreements, and reimbursable and nonreimbursable Space Act Agreements.

Contact

If your company is interested in the Windows®-Based Scaling and Measurement Software for Photographic Images or if you desire additional information, please reference Case Number KSC-12505 and contact:

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Commercialization Checklist

- ✓ Patent Pending

    U.S. Patent

- ✓ Copyrighted

- ✓ Available to License

    Available for no-cost transfer

    Seeking industry partner for further codevelopment