



## ***iWitness – Functionality that makes the difference***

- Affordability, at **\$1095.00** per license
- Capable of producing Digital Surface Models and exporting .LAS & .PLY Mesh (40-image limit, and unrestricted in *iWitnessPRO*)
- Capable of producing orthomosaic images from DSLR & Drone Camera platforms
- Automatic Ground Point Measurement Assist - for triangulating Ground Control Points
- Exceptionally intuitive and easy to use, with a minimum of toolbar buttons and pull-down menus and a maximum of rigorous background computational support (a full multi-image 3D measurement may involve no more than mouse clicks and five toolbar buttons)
- Highly rigorous and robust photogrammetric orientation
- Photogrammetric orientation processes occur automatically: 3D object point coordinates are updated with every new image point referencing, providing instant measurement results and very robust quality control
- Efficient and fast 'stitching' of adjacent, overlapping photogrammetric networks
- Quality indicators at all stages of the measurement process along with output of accuracy obtained
- Automatic recognition of the digital camera or cameras being employed, whether consumer-grade or professional
- A fully automated process for camera calibration either as a stand-alone operation or as an integral component of the measurement process (self-calibration)
- Auto-assisted image marking and referencing; single-key centroiding leads to both high-accuracy image marking (to 1/30th pixel) and optimal XYZ coordinate accuracy
- Flexibility to interactively set and change the XYZ object coordinate system, assign scale and tie-in to any chosen existing reference frame via control points
- Graphics capability for network analysis
- Auto-assisted image marking and referencing: single-key centroiding leads to both high-accuracy image marking (to 1/30th pixel) and optimal XYZ coordinate accuracy.
- Strengthening Mode: For aerial networks, where third and subsequent images are auto-tiled, and back-projected point labels are presented for fast image referencing
- Guided Referencing Mode: In the referencing of the third and subsequent images, image point locations are predicted, allowing fast, single-image referencing
- A Review Mode to allow the accuracy of image point referencing to be assessed, point-by-point, with interactive refinement of referencing, and instantaneous updating of network orientation and 3D point measurements
- Export of 3D measurement results in DXF format for CAD analysis
- Planar facet-based photo-realistic texturing of 3D models
- Generation of 3D curves and edges from 2D curve/line markings in images
- The handling of very complex measurement tasks and difficult network geometries, with there being no restrictions on the number of cameras and images employed or the number of measurement points.

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**Additional Utility Programs included with iWitness:**

**Zaraf:** In order to photogrammetrically utilize scanned photographs, it is necessary to perform interior orientation so that all images have the same 2D image coordinate system. Traditionally, this process has required the measurement of fiducial marks or frame corners on the photographs, followed by a coordinate transformation. With Zaraf, fiducial or corner point measurement is still employed, but the explicit coordinate transformation stage involves automatic generation of resampled images all with the same interior orientation. These can then be directly used in both iWitness and iWitnessPRO.

**XYRectify:** Plane rectification is the technique of projectively transforming a photograph into an equivalent photograph taken from a different viewing angle. XYRectify performs the rectification process, which is most commonly employed to transform oblique images of near-planar objects into equivalent images where the optical axis is perpendicular to the object surface. The new, rectified image then forms a scale- homogeneous map of the planar surface. This allows, for example, accurate XY coordinate measurements of positions on a roadway from oblique photographs, or 2D measurements on a building façade from oblique street-level images.