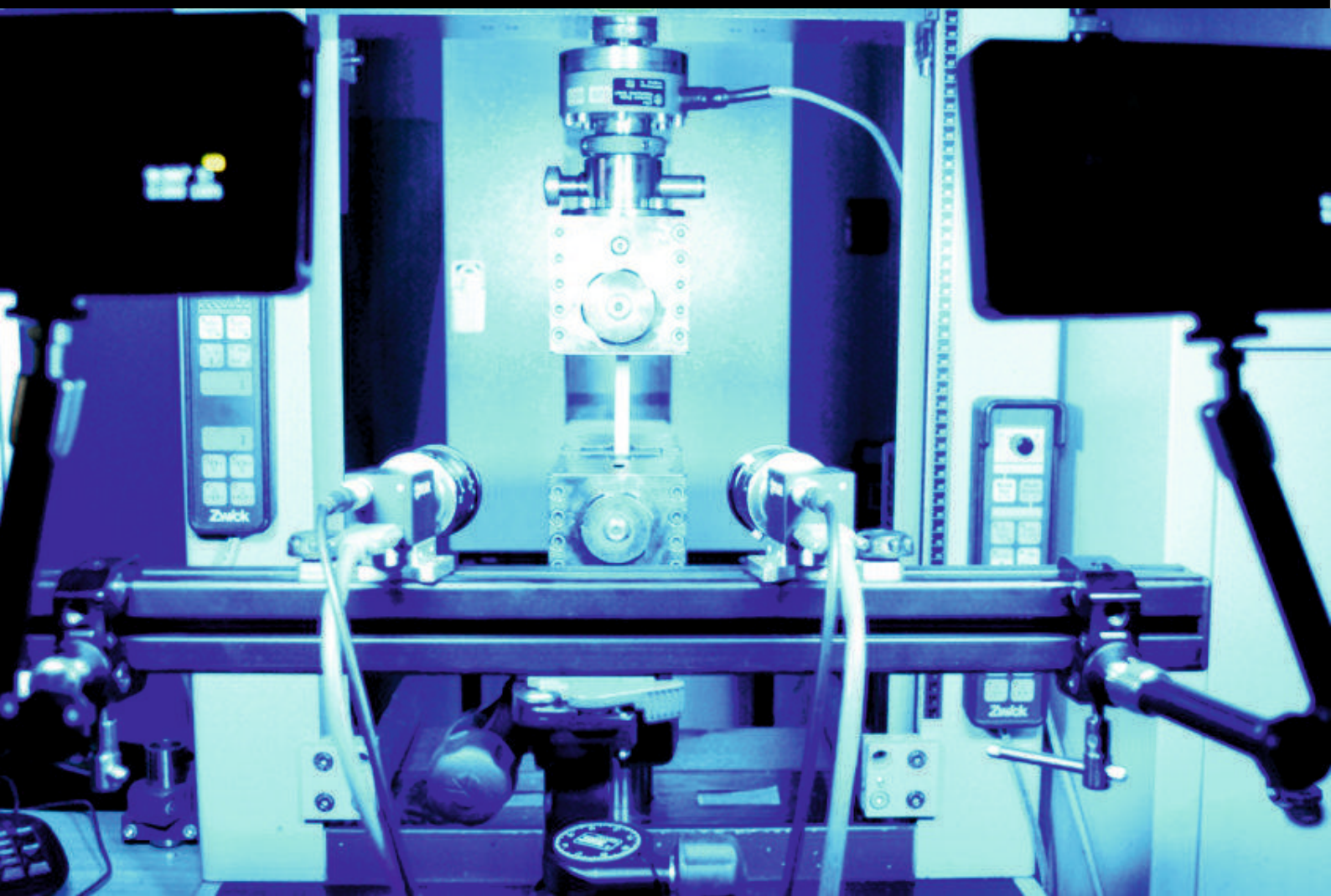
XSIGHT

2022 SOFTWARE SUMMER UPDATE

ALPHA 2022

The 2022 summer update brings a new major version of the DIC measurement software ALPHA. We are Xsighted to present new features and summarize other improvements.

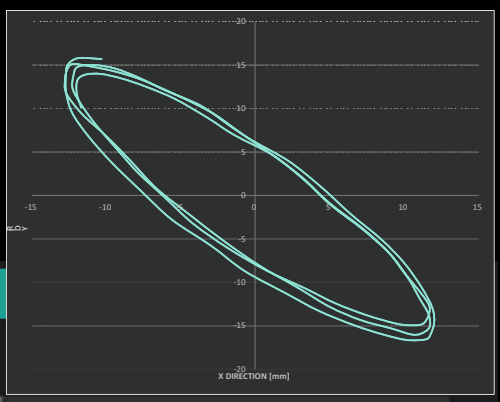
Large Object deformation measurements
Enhanced performance of recording
Probe functionality enhancements
Poisson's Ratio by ASTM, ISO, DIN
Export / Import features

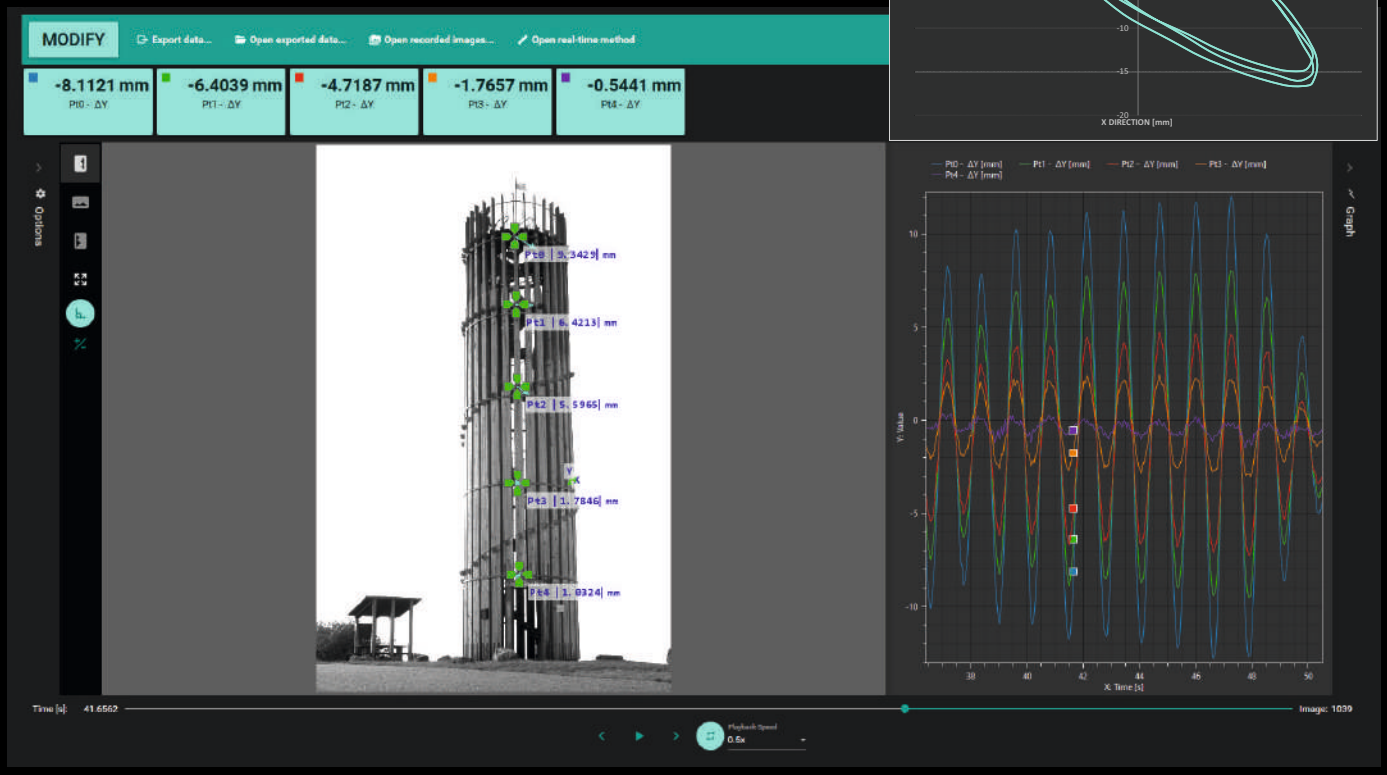


ALPHA 2022

LARGE OBJECT MEASUREMENTS

New functionality of 3D Composite Calibration allows to measure large objects such as bridges, towers and high scale experiments. Any recorded camera image pair can be used for 3D system recalibration and adjustment of the coordinate system.

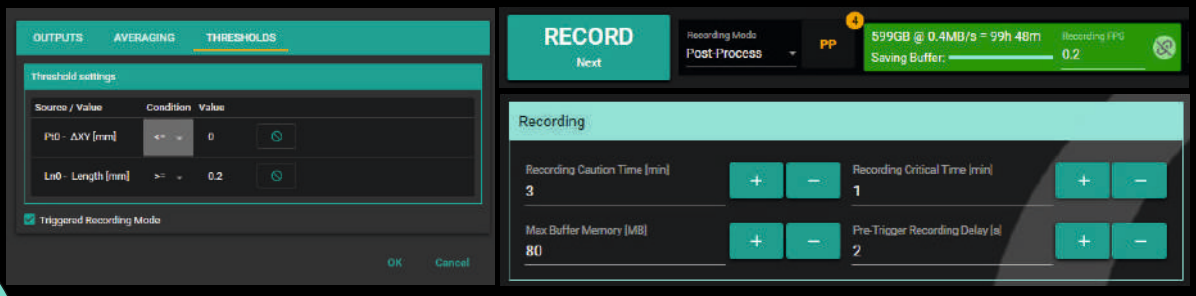




Example of the Large Object Measurement of the wooden observatory tower (Akatova vez) with identification of its orbit and horizontal deflections at operational conditions.

Enhanced performance of recording:

- Pre-Trigger functionality allows to record camera images before the trigger event occurs.
- The recording FPS can be set independently from the camera/computation FPS. This is useful to reduce the amount of recorded data for slow processes.
- “Triggered Recording Mode" for conditional recording over time allows switching between two modes of recordings based on the numerical condition of the chosen measured value. The function in principle allows to “record faster if something happens” or “record only if something happens” (in case the primary recording FPS is set to zero).



The recording functionality, pre-trigger and conditionally triggered recording mode setings

REAL TIME PERFORMANCE

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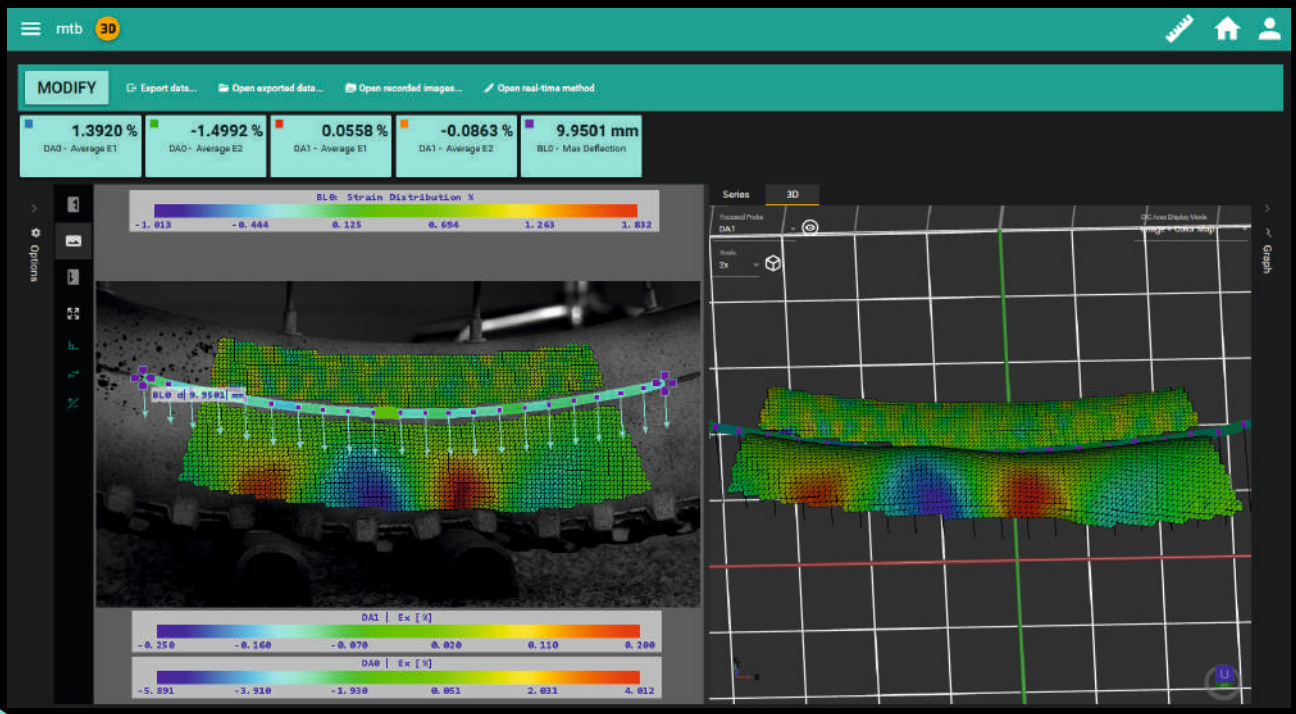
ALPHA 2022

COMPLEX 3D DEFORMATION ANALYSIS

Improvement of the DIC Area by adding the possibility to set a physical mesh step size. DIC Area can reflect the real size of the measured surface with respect to the required mesh element size.



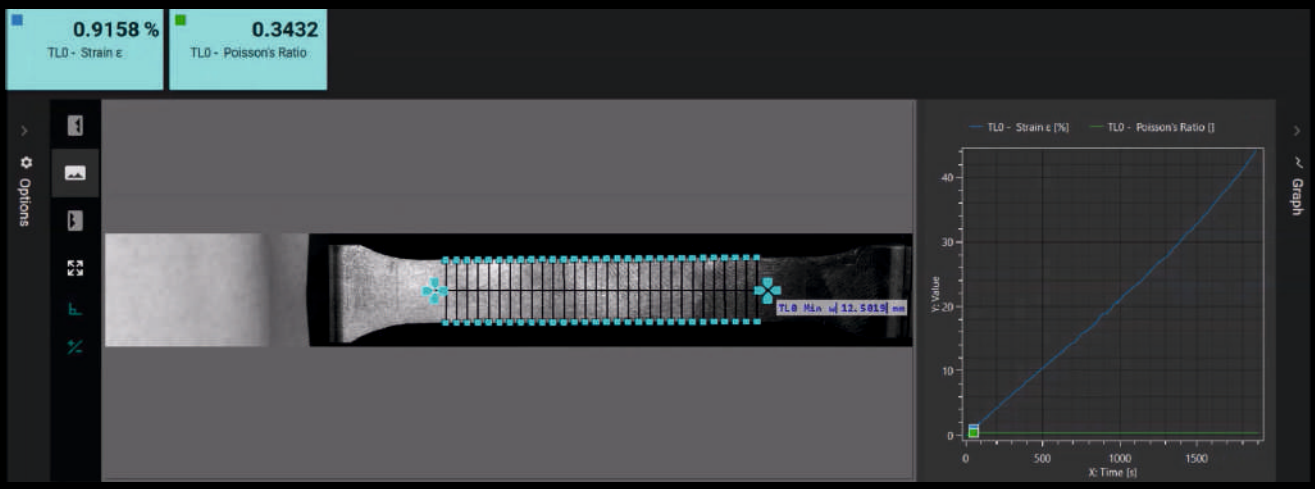
The type of mesh is now selected by icons and user can directly define the physical mesh size reflecting real size of the calibration and measured object

OPTIMIZED FUNCTIONALITIES

ALPHA 2022

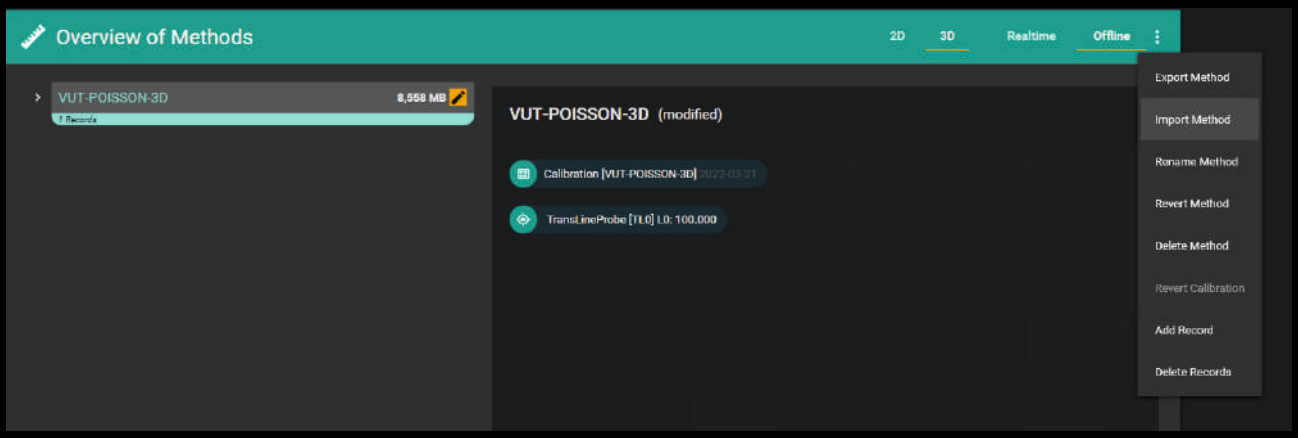
MEASUREMENT ENHANCEMENTS

Poisson's Ratio evaluation by ASTM, ISO, DIN; methodology is now integrated in ALPHA 2022 SW to reflect standards and utilizes the highest accuracy of the DIC method.



Highly accurate Poisson's measurement on metal sheet sample using the curve fitting method

ALPHA 2022 Methods - user projects can be now easily exported and imported as one independent ZIP file and shared between users.



One-click export of method creates ZIP archive importable to any other ALPHA 2022 and newer

UPDATE POLICY:

The process of ALPHA development follows the company R&D plan. Every customer can participate by suggestions to our technical support tecs@xsight.eu or direct discussion with X-Sight company representatives.

An active Technical Enhancements and Customer Support (TECS) ensures that customers get newest improvements and latest tools.

USER PERFORMANCE OPTIMIZATIONS

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ALPHA 2022

ALWAYS NEW FEATURES

ALPHA 2022 release integrates the following 37 new features:

- New functionality of 3D Composite Calibration wizard
- New functionality of 3D recalibration (local calibration) allows system Calibration (camera pose) or Coordinate System Adjustment or Scale factor from any camera sequence image pair for offline.
- Redesign of calibration modes (complete/simple, standard/composite) are selected from the overview instead of the wizard for quicker workflow.
- Simple calibration of distortions with a separate camera distortion model
- Live camera adjustment of the Coordinate System in calibration overview (With/Without Grid in 3D)
- Enhanced DIC area for computing of (max) Delta Length
- Revert Method also on post-process page for better productivity
- Improved sorting order of imported images which is now configurable
- Enhancement of the recording functionality to save lower FPS speed than FPS speed which is captured by the camera and used for calculation purposes.
- Integration of "Triggered Recording Mode" for conditional recording over time which allows switching between two modes of recordings based on the numerical condition of the chosen measured value. The function in principle allows to “record faster if something happens” or “record only if something happens” (in case the primary recording FPS is set to zero).
- Integration of Pre-Trigger functionality allows to set and record on any trigger camera frames given period back in time.
- Computed values are now divided into categories to improve selection ergonomics
- New functionality of configurable Thresholds for computed values with UI indication
- Enhanced functionality of Trans Lines which can compute Poisson's Ratio
- Implementation of Thermo camera input by PIX Connect device software protocol
- Enhancement of MercuryAPI by commands SETDISTANCE and SETTHICKNESS
- Improvement of Trans Line to be Maintain Width for reference
- Ergonomic positioning integration for a right-handed coordinate system in 3D camera set-up whenever possible based on principle stereoscopic rays' intersection and X-Y orientation by left camera scene view.
- Integrated option to mirror fiducial grid Y-axis during calibration to allow users for easy and accurate calibration over mirrors.
- Enhanced DIC Area triangulation types.
- Improvement of the DIC Area by adding the possibility of a physical Step Size parameter. DIC Area can reflect the real size of the measured surface with respect to the required physical element size. The type of mesh is now selected by icons
- Improvement of the Camera view by adding of sample Alignment movable grid.
- Enhanced Line Probe by YZ Angle computation.
- Enhancement of Point Probe Euclidean Velocity and Acceleration computation.
- Enhancement of DIC Area by allowing various orientations and placements of scale caption
- Enhanced 3D Graph by the scale factor and displacement vectors visualization.
- Poisson's Ratio evaluation by ASTM E132-17
- Improved coordinate system positioning in methods and such (always available)
- Enhancement of Torsion Line tool by optional inner points
- The license modules can be configurated by the user from all customers' available module
- The Methods - projects can be exported and imported as one independent zip file
- Enhancement of 2D canvas and 3D graph by vector display option
- Optional 2D high precision camera model based on the statistical approach
- Improvement of the 3D graph by ortho camera butto
- UI refresh rate is customizable by Genera Settings
- Added generic scripting service
- Improvements of TimeStamp value at outputs and UI

ALPHA 2022 release also integrates 88 additional improvements.