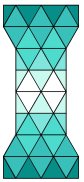


# ALPHA DIC 2026

The latest Alpha DIC release brings improved precision, enhanced visualization, and broader hardware support — helping getting more reliable results, faster.

## WHAT'S NEW?



### DIC AREA IMPROVEMENTS

- Strain vector visualisation
- Holes (exclusion polygons)
- Ellipse shapes for all polygons
- Absolute coordinates



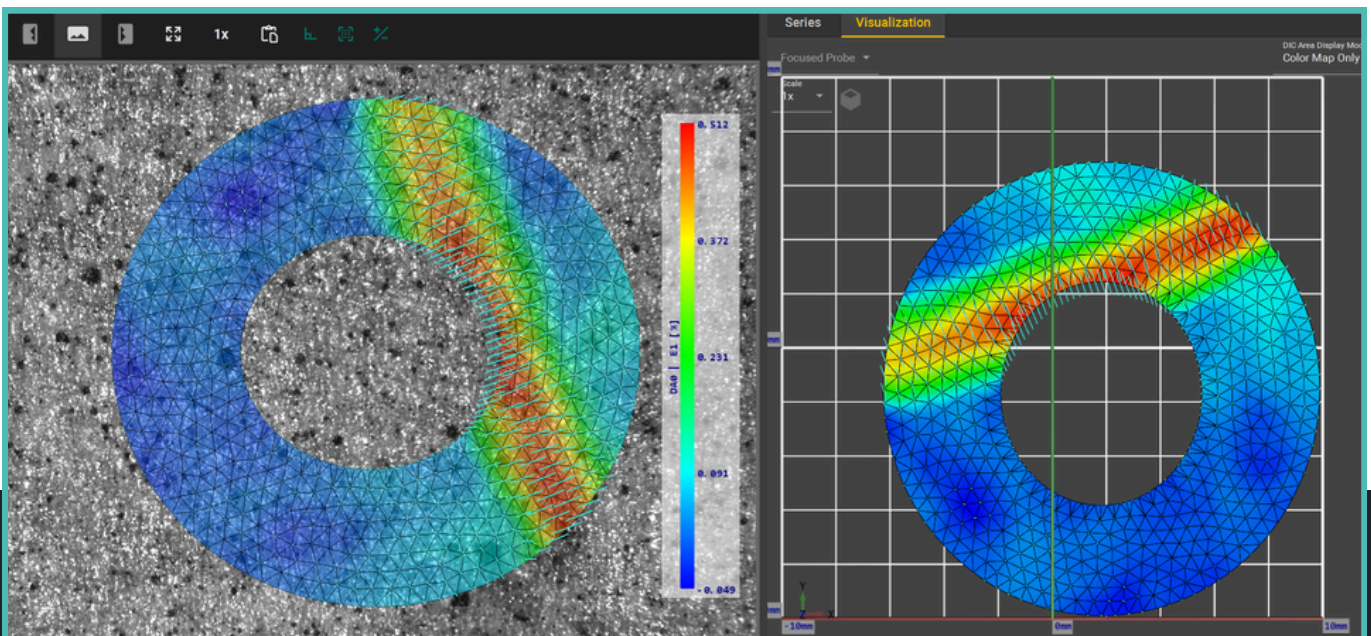
### VISUALIZATION & ANALYSIS

- “3D graph” for 2D methods
- Camera calibration validation
- Balanced Reference



### HARDWARE & INTEGRATION

- Hikrobot camera support
- Epsilon 3590VHR input



# DIC AREA IMPROVEMENTS

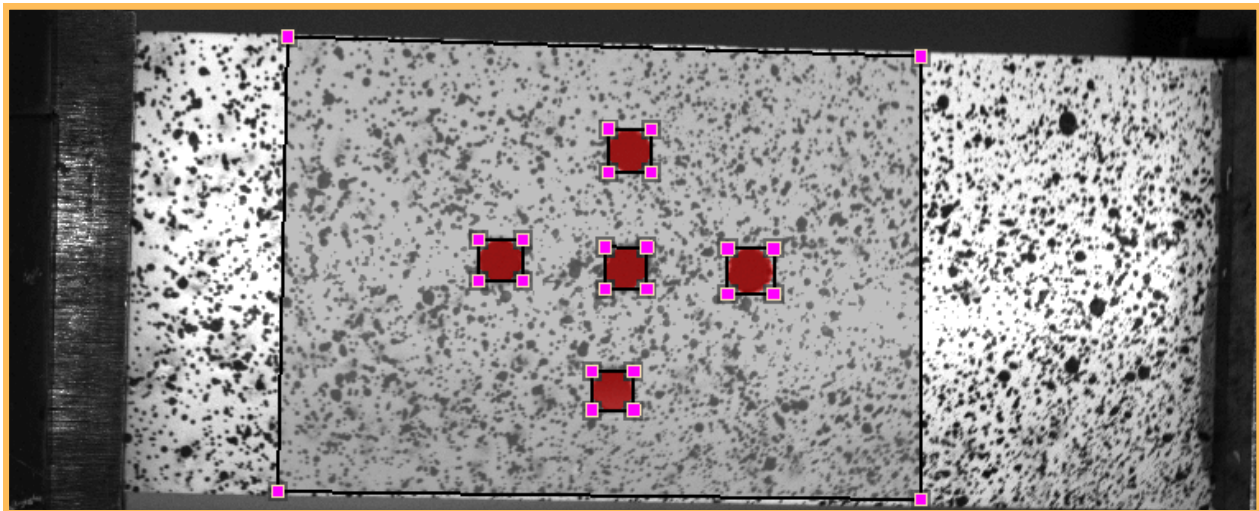
The Full-field DIC Area probe has undergone a major upgrade, bringing enhanced flexibility and improved visualization capabilities. The update introduces **strain vector visualization** and **advanced shape customization**.

Creating elliptical regions is now faster and more intuitive. Instead of manually converting rectangular areas into polygons, users can directly generate inscribed or circumscribed ellipses within the probe settings.

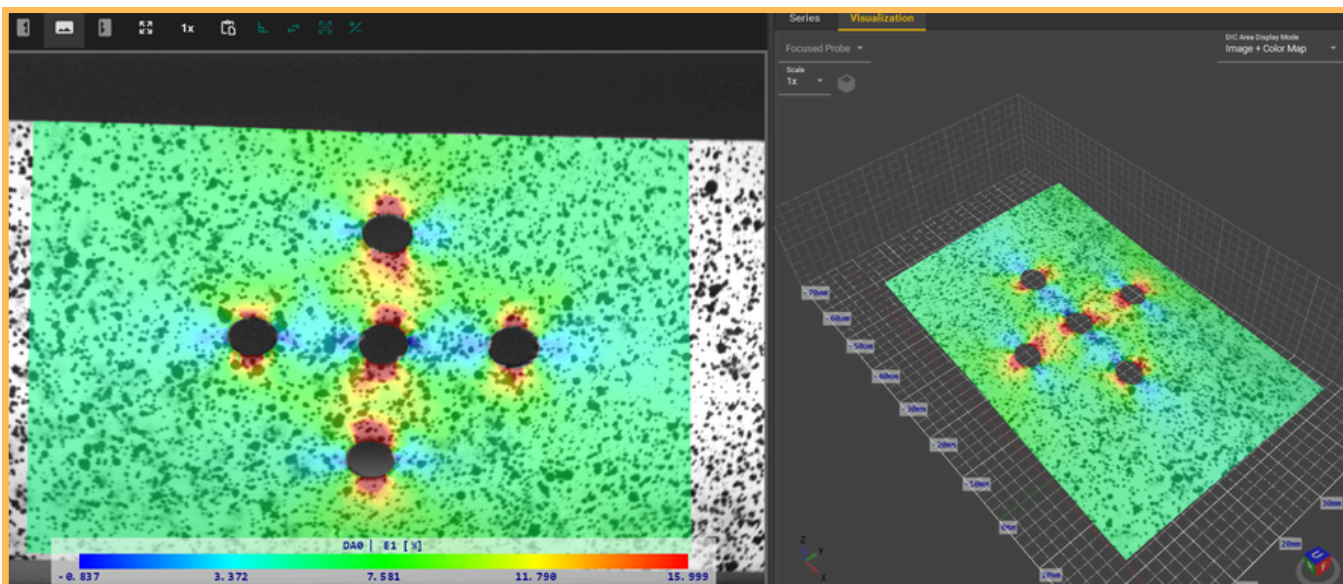
Additionally, **elliptical holes** can now be easily defined within these regions, further expanding the possibilities for precise area definition and analysis.

## USE CASE 1: NOTCHED SAMPLE STRAIN CONCENTRATION

The example focuses on strain concentration in a sample with multiple notches. Thanks to the enhanced DIC Area tools, defining regions for full-field analysis is now significantly faster and more efficient. The images below show the camera view alongside a strain color map and a 3D representation, clearly highlighting strain concentration near the notches. Measuring these regions is essential, as notches typically create areas with the highest strain and stress.



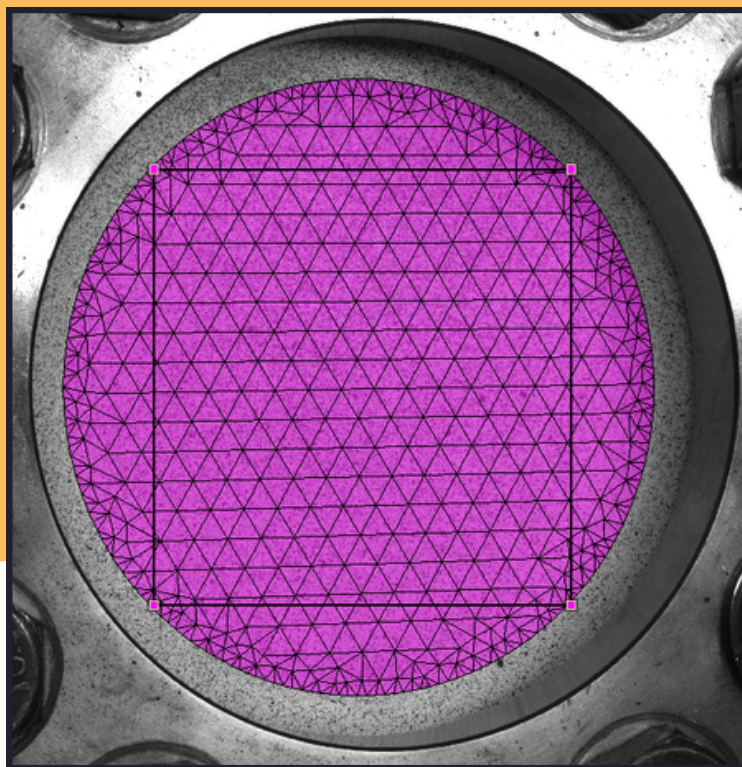
▲ DIC Area probe arrangement with Add Hole feature



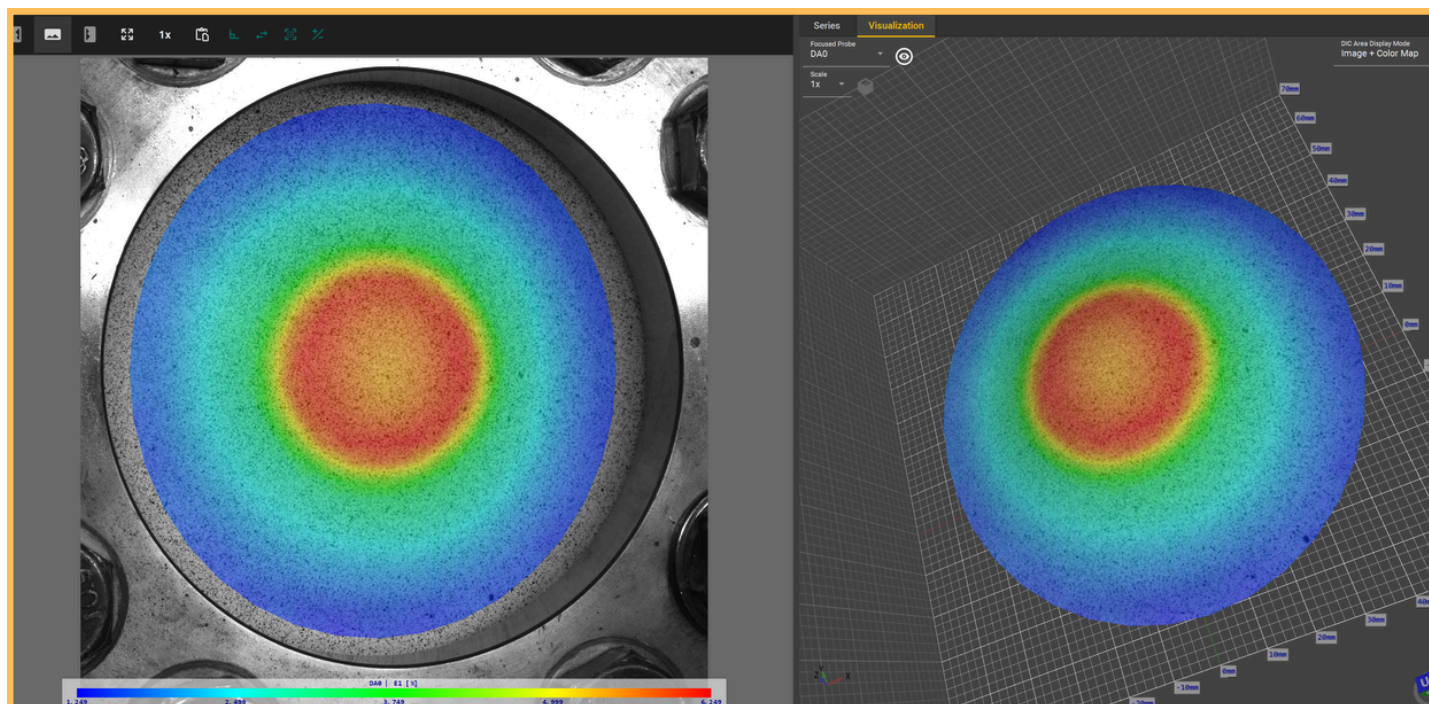
▲ Strain color map of a notched specimen

## USE CASE 2: FORMING LIMIT CURVE DETERMINATION

In this example, the feature is used for forming limit curve (FLC) evaluation on a metal sheet, where the critical strain zone is often localized. Elliptical area probes allow the evaluation area to fit the deformation region more closely, while elliptical holes can exclude irrelevant or distorted zones. This creates a smoother and more fully covered evaluation area, allowing the software to calculate strains from a more representative region, as exhibited on the figure underneath.



▲ DIC Area positioning on a metal sheet

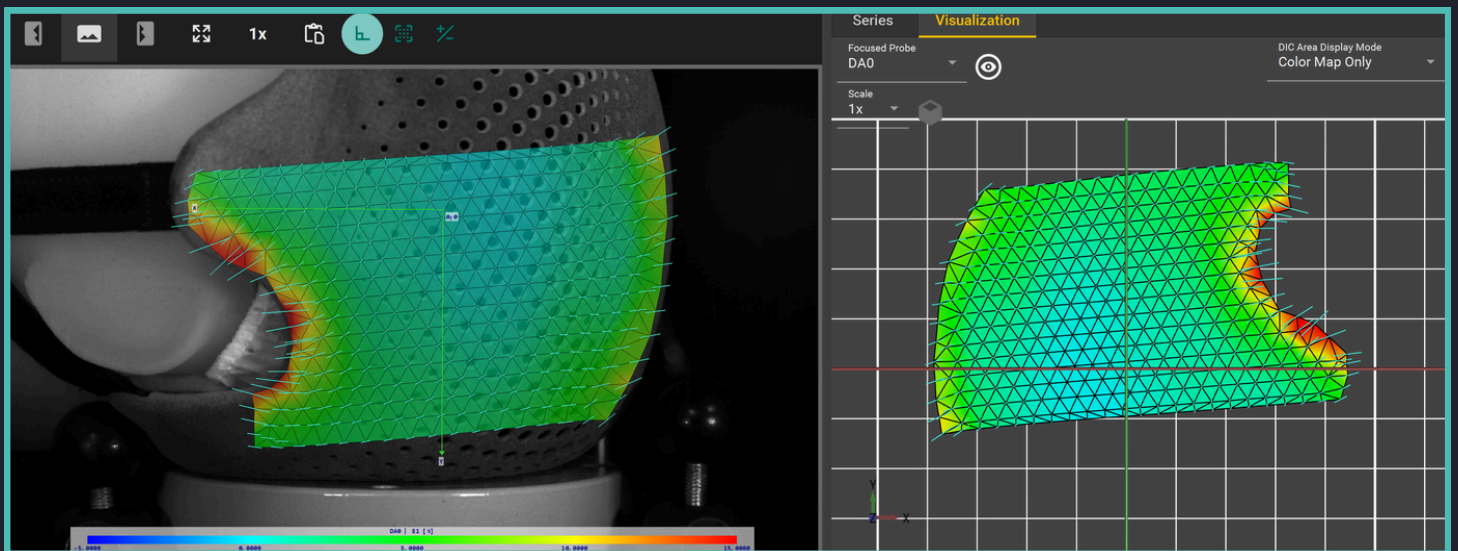


▲ Full-field circular area for the FLC evaluation

# VISUALIZATION & ANALYSIS

## VISUALIZATION CHART REFINEMENT

A newly implemented visualization chart has been added to the 2D methods, bringing functionality previously available only in 3D methods. This chart can now be used with selected Alpha DIC probe types, such as the Extreme Line Probe, Crack Probe, and DIC Area, providing a clearer overview of the measured data directly within the 2D workflow. By transferring this visualization tool from the 3D environment, the software now offers a more consistent analysis experience across both methods and improves the interpretation of 2D measurement results.

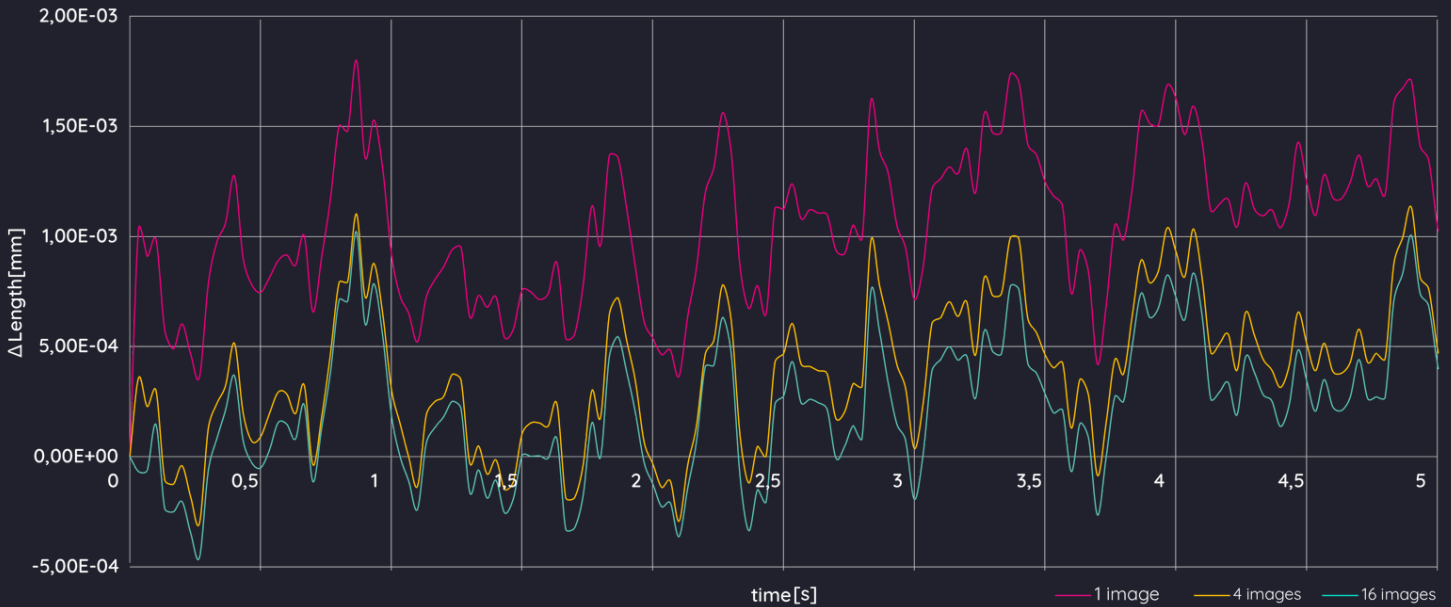


▲ Visualization chart in a 2D method

## BALANCED REFERENCE

The new Balanced Reference feature creates a more stable starting point for DIC measurements by averaging multiple camera frames into a single reference image. A single frame may occasionally capture random camera noise that can influence the entire measurement. Balanced Reference provides a cleaner and more reliable baseline for displacement and strain evaluation.

The number of frames can be set from 1 to 64, where lower values offer faster reference calculation, while higher values further enhance stability and repeatability. This helps users achieve more accurate measurements and greater confidence in their results, especially in applications where precision matters.

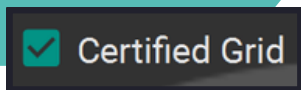


▲ Balanced Reference in a static scene  
 (more averaged frames bring the signal closer to the correct zero baseline)

## CAMERA CALIBRATION VALIDATION

When a calibration grid is detected during calibration creation, a new optional feature, Scale Validation, is available directly during coordinate system initialization. Users can validate whether the average distance corresponding to the Grid Width is correct by comparing it with the certified length between the calibration grid fiducial points (in compliance with **ISO 9513** and **ASTM E83-10a** standards). Based on this comparison, the software proposes a Scale Correction Factor.

**Note:** This validation is only available if the Certified Grid parameter is enabled in the settings.



🔍 Scale Validation ^

Certified Length  
40 mm + -

Image Count  
30 + -

Validate

VALIDATION  
PROCESS

➔

Scale validation results

Relative Scale Error [%]: 0.14  
 ISO 9513: Class 0.5  
 ASTM E83-10a: Class B-1

Do you want to apply the computed scale compensation factor?

Apply    Cancel

# HARDWARE & INTEGRATION

## CALIBRATION DEVICE

**Epsilon 3590VHR** is a standard calibration device designed for verification of extensometers used in material testing systems. It is now integrated into Alpha DIC software, allowing the calibration process and measured reference values to be used within the measurement workflow.



## BROAD CAMERA SUPPORT

Alpha DIC now supports the following industrial camera platforms: FLIR, AVT, Basler, Optris, XIMEA, Daheng, IDS, DynaColor, i-Speed 7 and the latest addition to the list, **HIKROBOT**.



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## Technical support

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