Latest Features in spGauge 2026.1

Armonicos Co., Ltd.

ARMONICOS

spGauge 2026.1

– Latest Features –

1. Point Cloud Non-Uniform Scaling
2. Enhanced Line Position Tolerance Inspection
3. [Extract GD&T] Register Cross Section Info as Objects
4. Alignment: Use Normal Vectors in Best Fit
5. [Weld Points]: [Detect Short Distances] Display Distance Lines in View
6. [Weld Points]: Trim Line Distance Check
7. [Weld Points]: Trained Model Creation Tool for AI Inspection
8. Morphing NEW!

– Others –

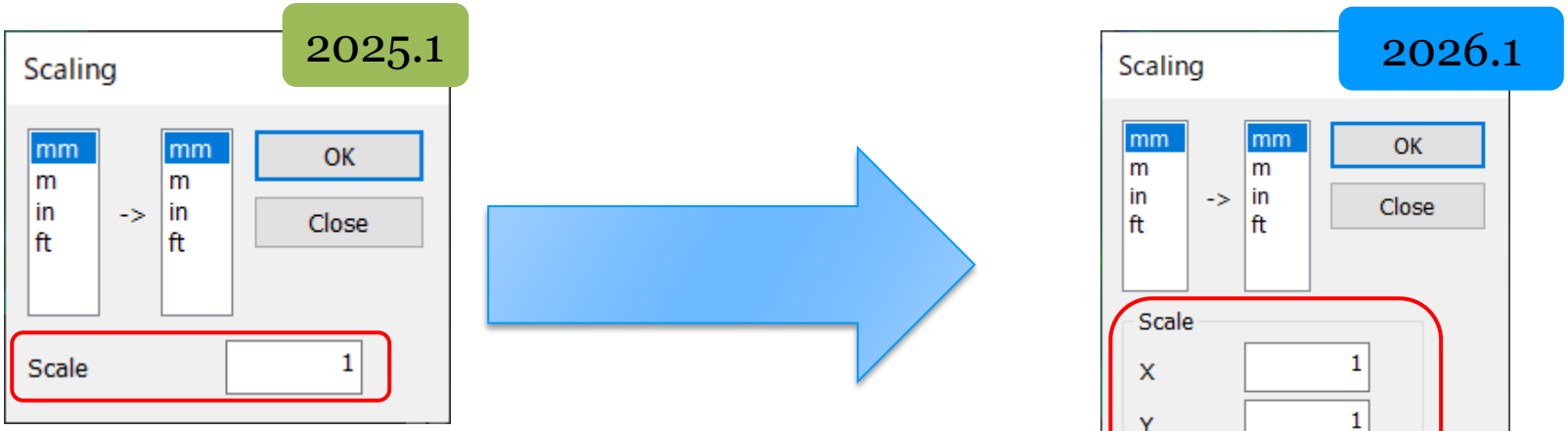
Improved Items

Addressed Issues

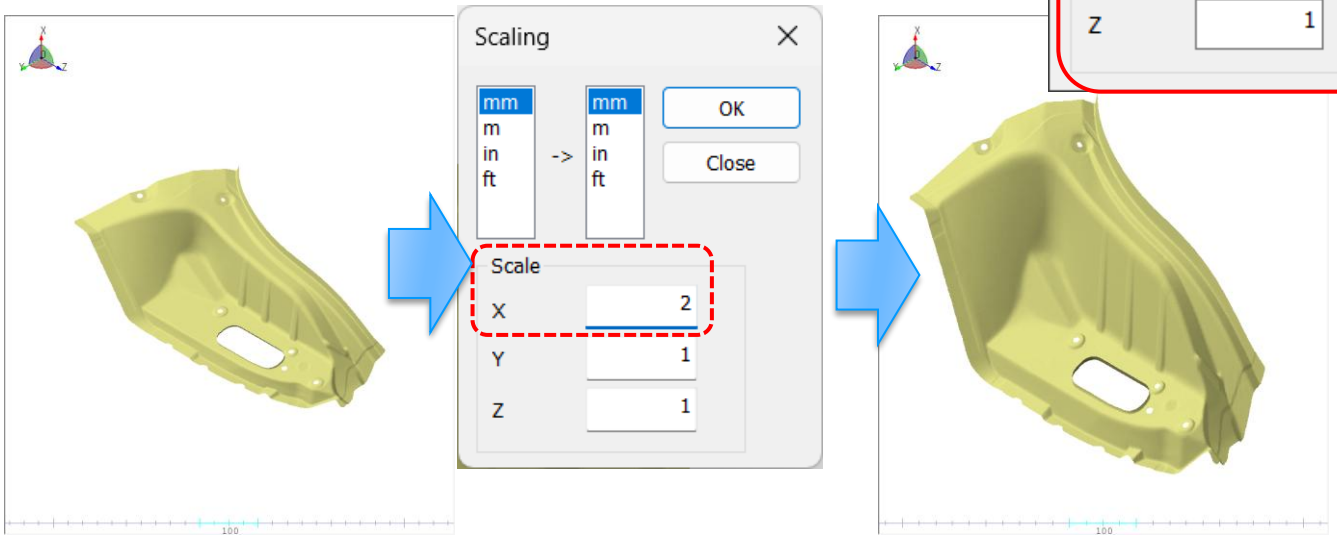
1. Point Cloud Non-Uniform Scaling

Non-uniform scaling along specified directions is now available for point clouds.

Menu **[Tool]-[Point Cloud Tool]-[Scale]**



Ex :



2. Enhanced Line Position Tolerance Inspection

Enhanced Geometric Tolerance Inspection for Line Position:

- Without the φ symbol
- With single datum
- With no datum

Menu **[Inspection]-[GD&T]-[Geometrical Tolerance]-[Inspect]**

Table of Geometrical tolerance

Type of geometric tolerance	Symbol	Definition	Target	Datum			Number of datum	φ	Support Status
Position	⌖	Positional tolerance of a point.	Point	Plane	Plane	Plane	3	Sφ	✗
		Positional tolerance of a line.	Rotation axis	Plane	Plane	Plane	3	φ	✓
				Plane	Plane	Plane	3	-	✓
				Plane	Rotation axis	Rotation axis	3	φ	✓
				Plane	Plane		2	φ	✓
				Plane	Plane		2	-	✓
				Plane			1	φ	✓
				Plane			1	-	✓
				-			-	φ	✓
		Positional tolerance of a flat surface or a central plane.	Plane	Plane	Rotation axis		2	-	✗

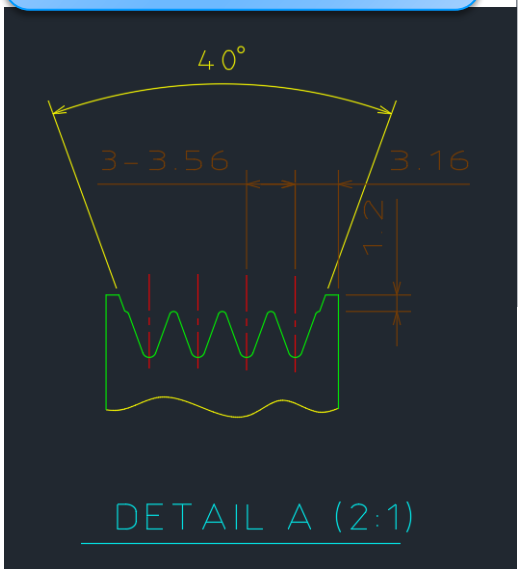
3. [Extract GD&T] Register Cross Section Info as Objects

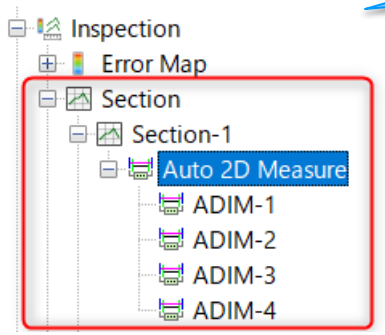
When extracting GD&T from DXF, section information is now registered as Section Objects in the tree.

Menu

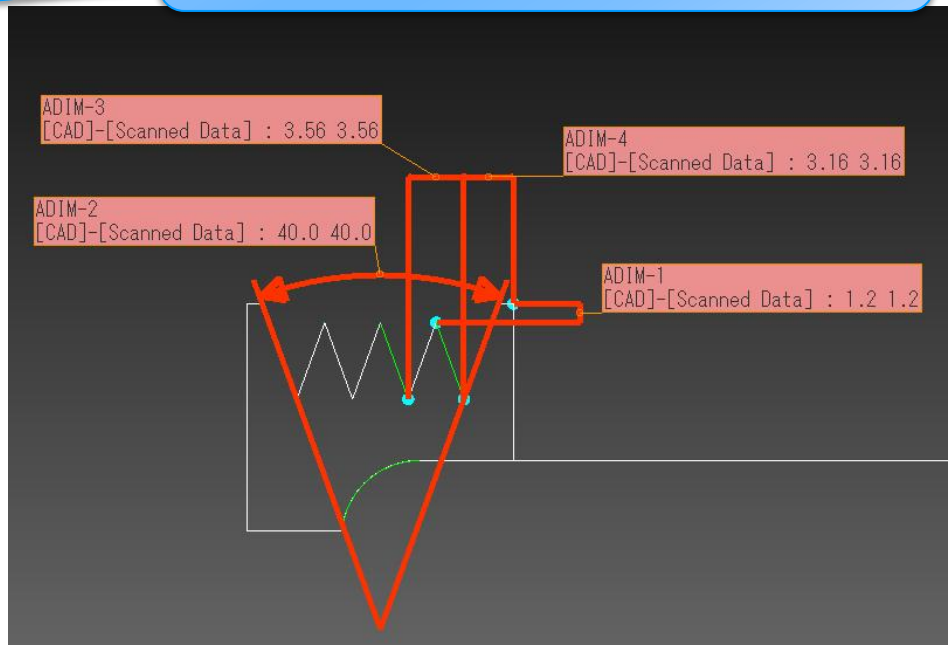
[Prime]-[Extract GD&T]
[Inspection]-[Section]-[Run Auto 2D Measure Inspection]
Object Tree: <Inspection>-<Section>-<(Section Object)>, [Auto 2D Measure]-[Inspect]

Cross sectional view in DXF





[Auto 2D Measure] feature can be used on cross section objects

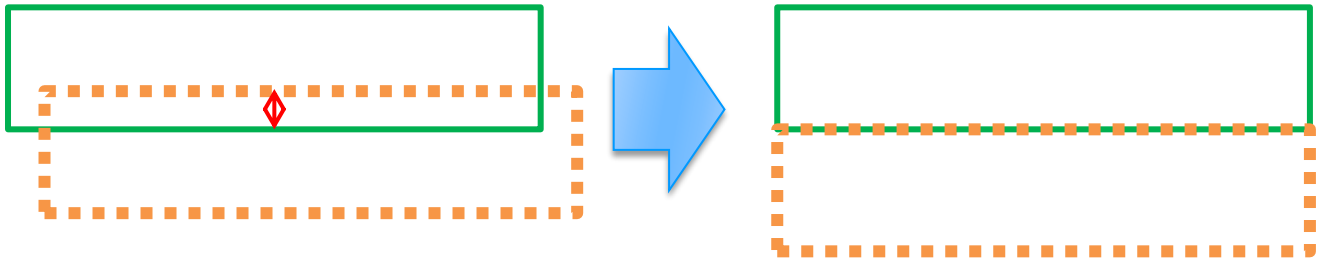


4. Alignment: Use Normal Vectors in Best Fit

Best Fit can now consider normal vectors to ensure intended alignment.

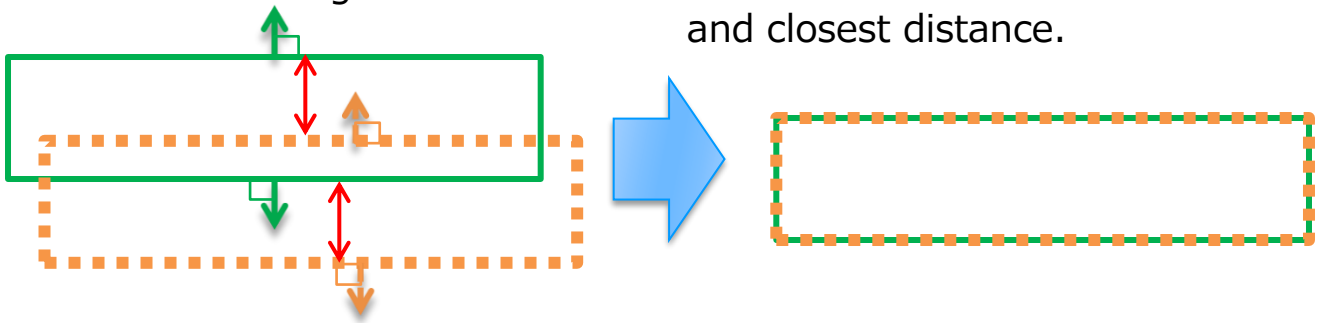
Menu **[Alignment]-[Unification Fit]**
[Alignment]-[Best Fit]-[Best Fit CAD-Cloud]
[Alignment]-[Best Fit]-[Best Fit Cloud-Cloud]
[File]-[Import]-[CAD Data]

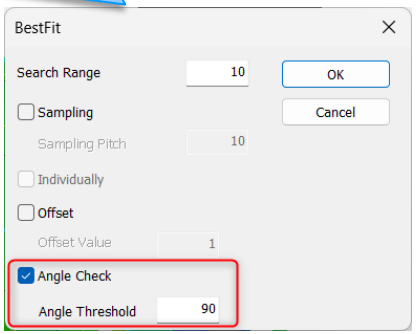
Without Normals: Alignment is based solely on the closest distance.



[Angle Check]: When enabled, points are excluded from the search if their normal angle is outside the tolerance (e.g., inverted direction).

With Normals: Alignment considers both normal direction and closest distance.

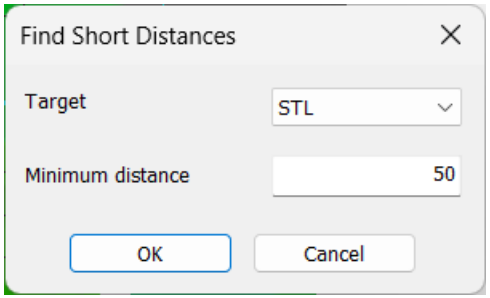


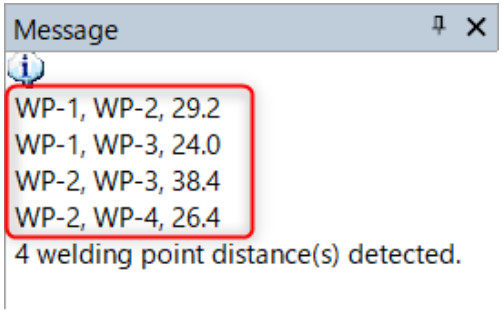


5. [Weld Points]: [Detect Short Distances] Display Distance Lines in View

Lines representing measured distances are now displayed in the view.

Menu [Inspection]-[Welding Point]-[Detect Short Distances]
Object Tree: <Inspection>-<Welding Point>, [Detect Short Distances]



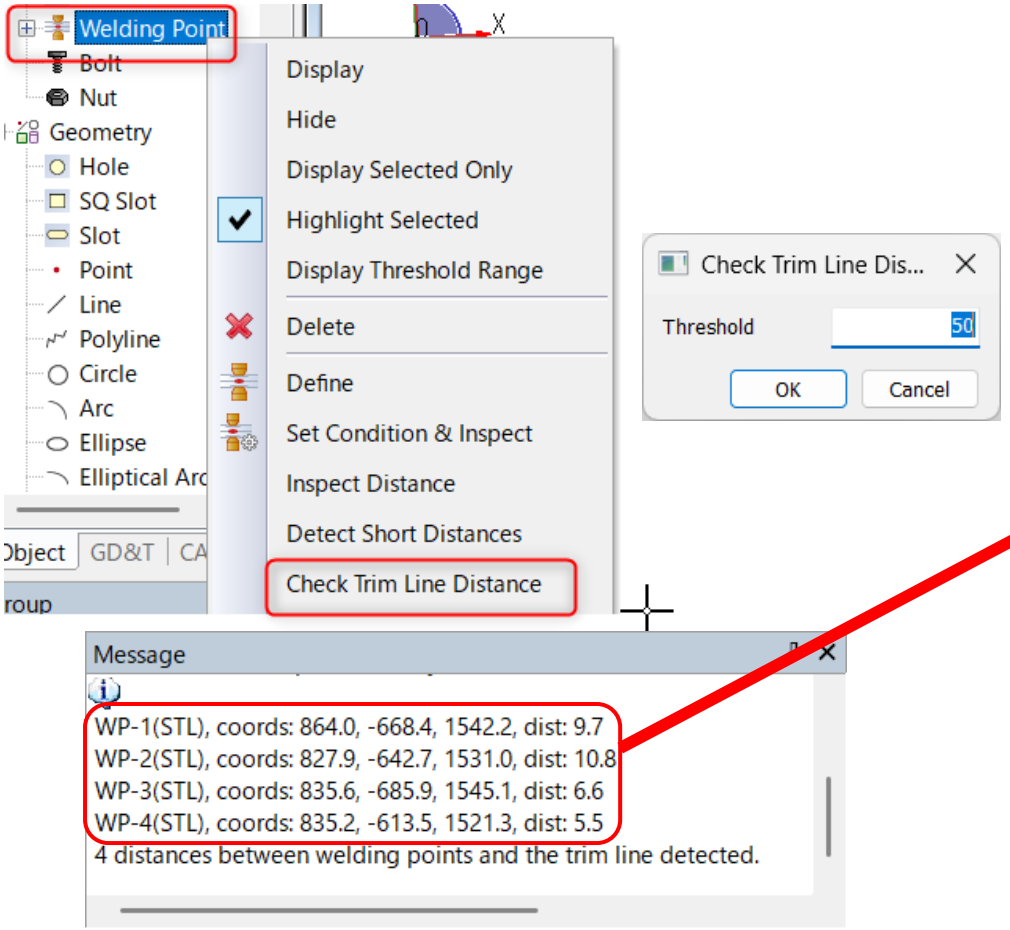


Measured lines appear in magenta.
Distance values in the Message Pane are displayed to 1 decimal place.

6. [Weld Points]: Trim Line Distance Check

Shortest distance inspection between weld points and CAD free edges / point cloud trim lines.

Menu **[Inspection]-[Welding Point]-[Check Trim Line Distance]**

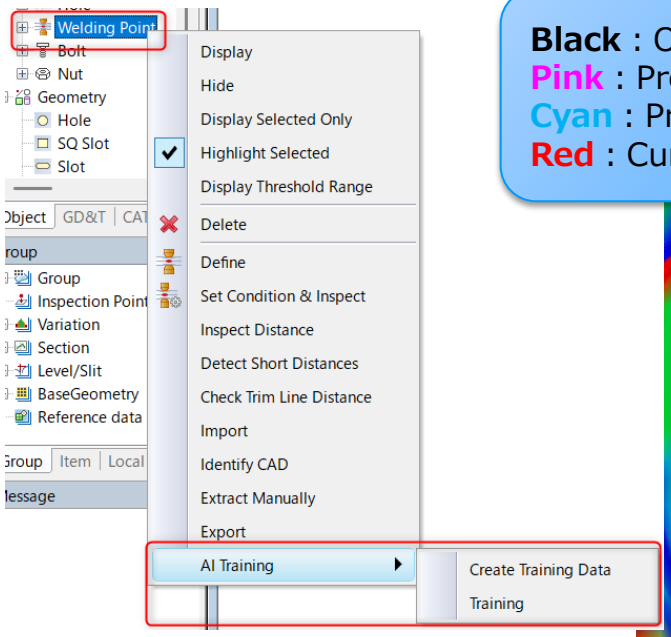


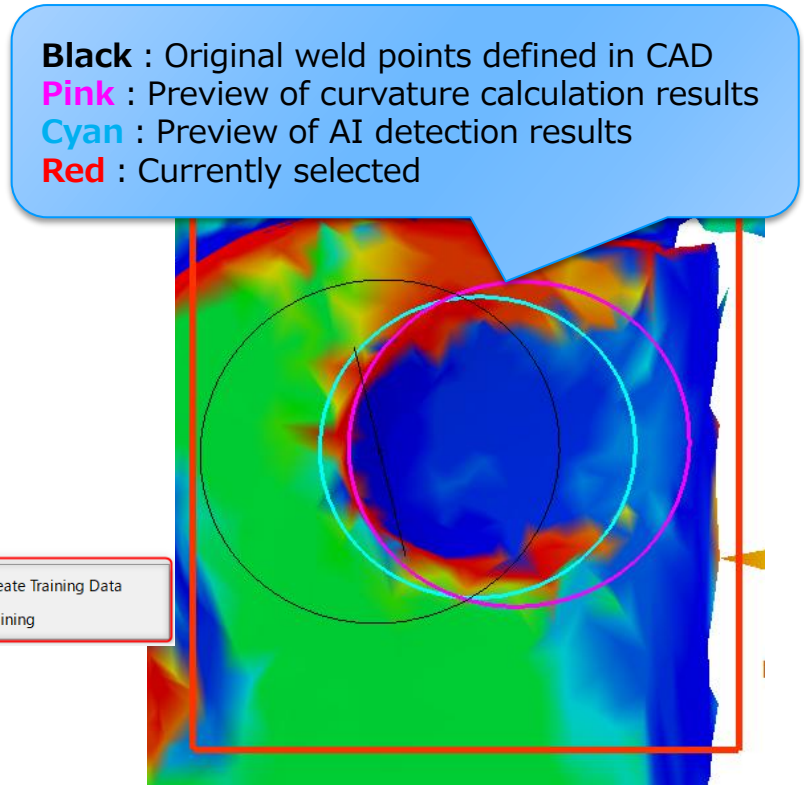
7. [Weld Points]: Trained Model Creation Tool for AI Inspection

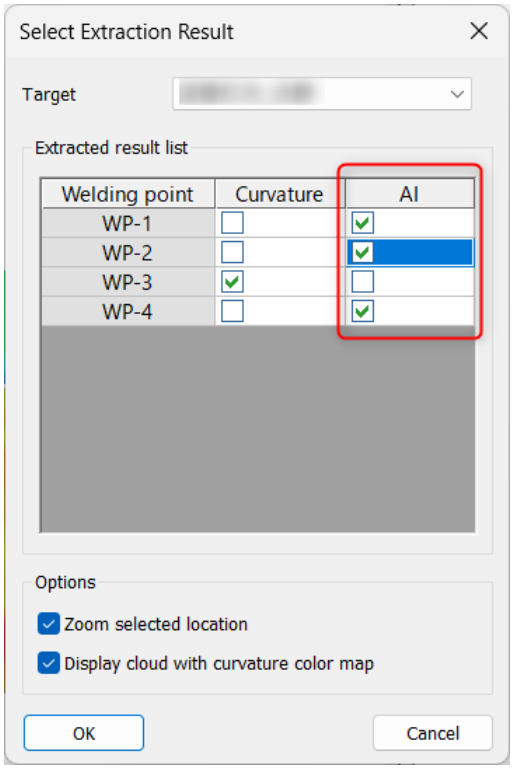
Training with custom data for AI weld point extraction:
It is now possible to train the AI model using **your own data.**

Menu

[Inspection]-[Welding Point]-[AI Training]-[Create Training Data]
[Inspection]-[Welding Point]-[AI Training]-[Training]
Object Tree: <Inspection>-<Welding Point>, [AI Training]-[Create Training Data]
Object Tree: <Inspection>-<Welding Point>, [AI Training]-[Training]



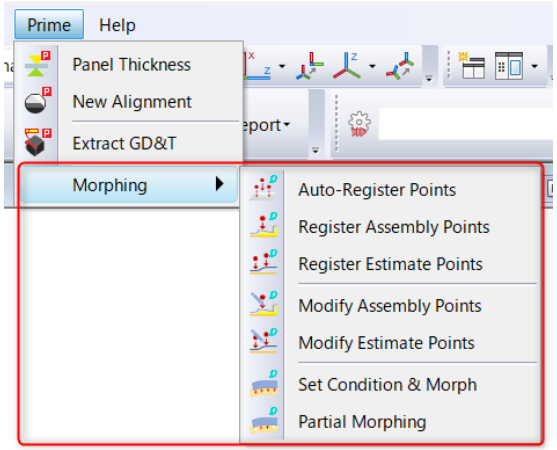


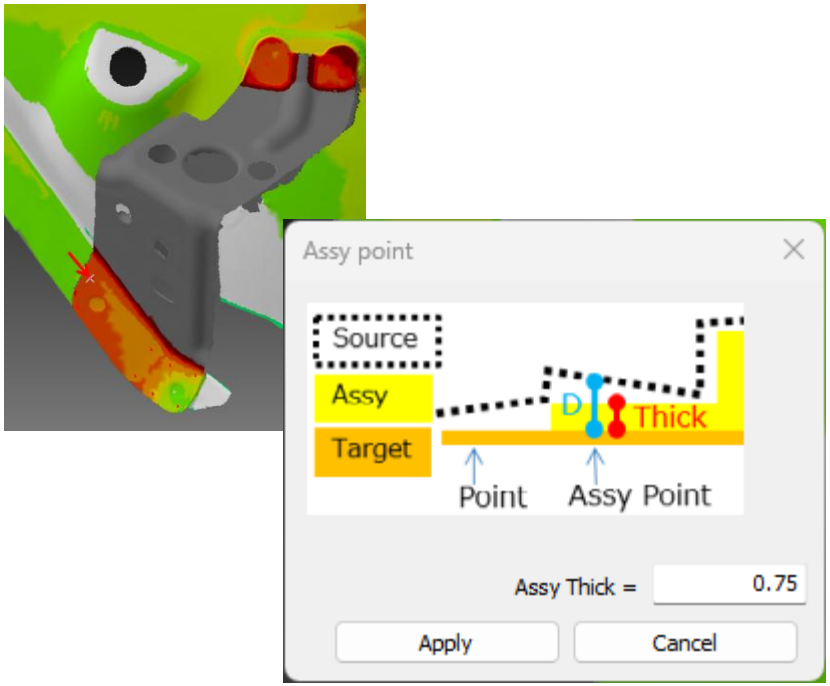


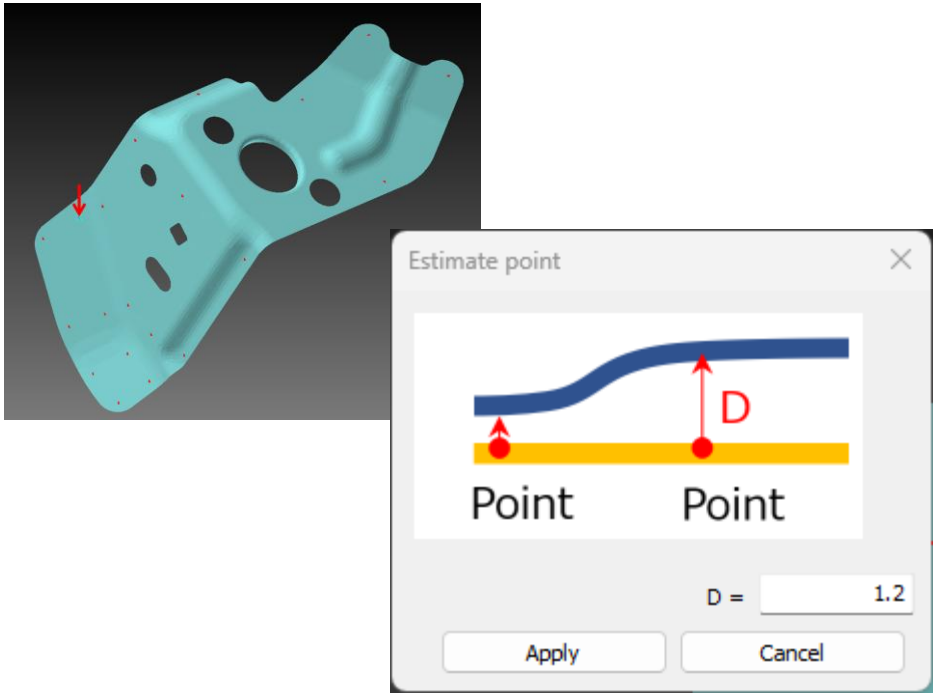
8. Morphing

Added morphing functions.

Menu [Prime]-[Morphing]-[Auto-Register Points] New !
[Prime]-[Morphing]-[Register Assembly Points] New !
[Prime]-[Morphing]-[Register Estimate Points] New !
[Prime]-[Morphing]-[Modify Assembly Points] New !
[Prime]-[Morphing]-[Modify Estimate Points] New !
[Prime]-[Morphing]-[Set Condition & Morph] New !
[Prime]-[Morphing]-[Partial Morphing] New !

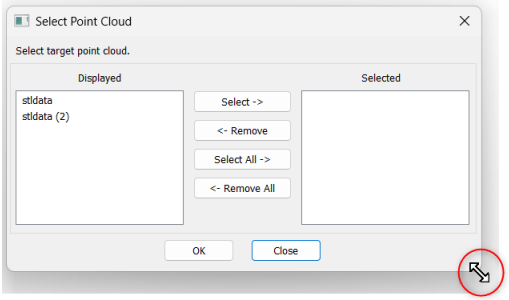




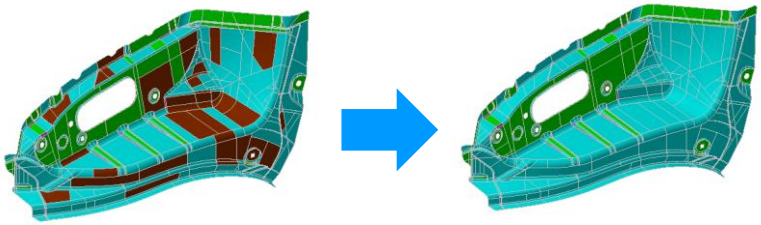


Improved Items

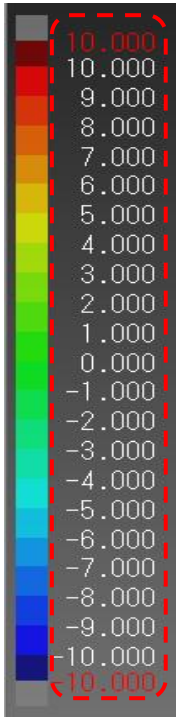
✓Improved functionality to allow resizing of the dialog box displayed when selecting multiple point clouds or CAD models.



✓[Tool]–[CAD Tool]–[Fix Surf Direction] Improved the accuracy of the Fix Surf Direction function.(16782)

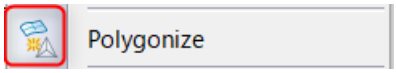


✓Modified the numeric values displayed on the Error Map color bar to be right-aligned.(16922)



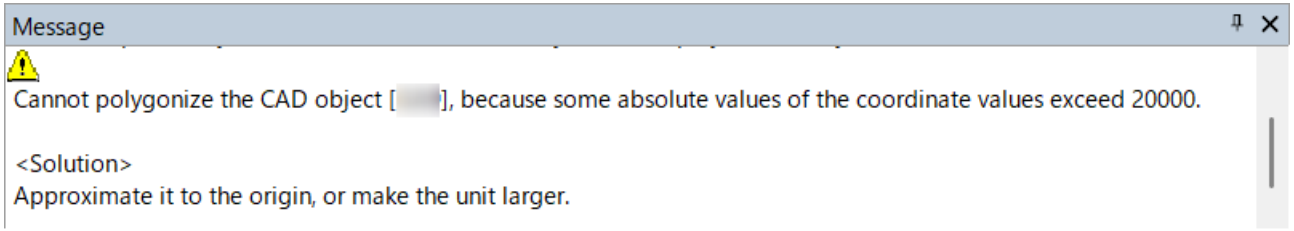
Addressed Issues (1)

✓Object Tree：<Work>-<CAD>-<(CAD Object)>, [Polygonize]: Addressed an issue where the icon would not appear. (16857)



✓[View]-[Clip View]: Addressed an issue where annotations created in weld point inspection might not be hidden when clipped. (16771)

✓[Tool]-[CAD Tool]-[Polygonize]: Modified to display the cause and workaround in the Message Pane when polygonization fails because the absolute coordinate values of the CAD object exceed the system limit. (16931)



✓[Alignment]-[Coordinate Systems]-[N Points]: Addressed an issue where spGauge might become unresponsive when selecting source/target from the tree.(16754)

Addressed Issues (2)

- ✓[Inspection]–[Error Map]–[Cloud – Cloud]: Addressed an issue where an access violation might occur when performing Error Map inspection on PLY point clouds. (16682)

- ✓[Inspection]–[3D Section]–[Circle]–[Define]: Addressed an issue where the process might not complete when defining a section. (16752)

- ✓[Inspection]–[Point]–[Import Measured Points]: Addressed an issue where an error might occur when exporting to spGauge Viewer Light DSLX after point inspection. (16924)

- ✓[Inspection]–[Welding Point]–[Extract Manually]: Addressed an issue where deleting an extracted weld point might cause other extracted weld points to disappear. (16866)

Addressed Issues (3)

✓Addressed an issue where the text "3D Section" in "3D Section_Circle/Polyline" might disappear when renaming a point cloud or CAD object in the tree. (16759)

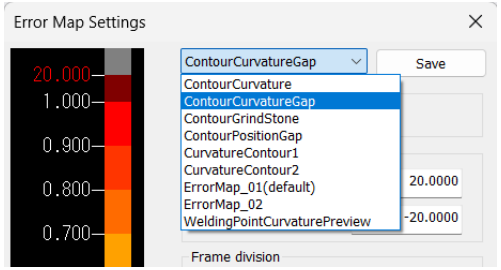
✓Addressed an issue where renaming a point cloud object in the tree would not reflect the point cloud name in the dimension tolerance annotation. (16825)

✓Addressed an issue where a view might re-maximize upon clicking the view even after maximizing was canceled. (16948)

✓Addressed an issue where the system might become unresponsive when applying a matrix to inspection points. (16950)

✓Addressed an issue where switching the view with the Page Up key immediately after starting the following menu would change the color bar settings in the dialog. (16805)

- [Inspection]-[Error Map]-[Error Map Settings]
- [Inspection]-[Evaluate Curvature]
- [Inspection]-[Principal Curvature Direction]
- [Inspection]-[Deformation]



Miscellaneous

System Requirements:

- ✓ Ended support for Windows 10.
- ✓ Ended support for Microsoft Office 2019.
- ✓ Started support for Microsoft Office 2024.

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