

New SpatialAnalyzer Version: SA 2021.1

One of the significant advantages of SpatialAnalyzer is that development occurs at a brisk pace. New feature requests, bug fixes, and changes are implemented quickly, giving you the opportunity to start taking advantage of newly implemented features in a very short period of time.



NEW SA VERSION FORMAT

Starting in 2021 SA has moved to a new Version format:

`<year>.<release #>.<build #>.<minor #>`

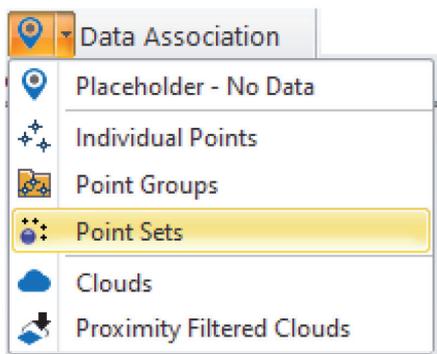
Where the `<year>` is still first as before (2021), the `<release #>` field presents a sequential release number during the `<year>`. This is no longer the month. The `<build #>` field is defined automatically a unique version control number, and the `<minor #>` field is reserved for minor changes (for example, hot fixes).

INSPECTION IMPROVEMENTS

Point Sets

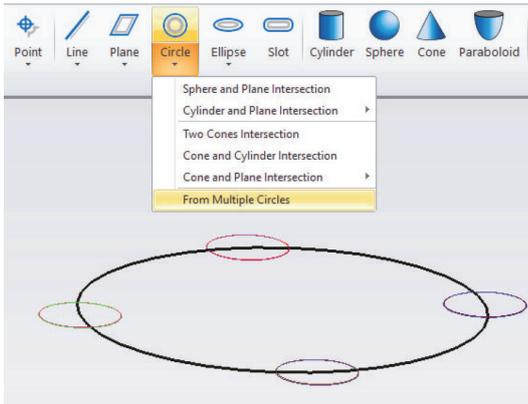
Point Sets can now be used for geometry fit applications. This opens the door to directly using large point scans within SA for analysis that would otherwise slow down the application. It's also better than a point cloud because a point set includes the measurement details, the point names used and the instrument timestamp when available.

- ▣ Construct point sets from selected points
- ▣ Geometry fit and GR-Feature construction
- ▣ Queries/relationships between point sets and objects/surface faces



Circle from Circle Pattern

A circle can now be built directly from a pattern of circles without construction cardinal points first.



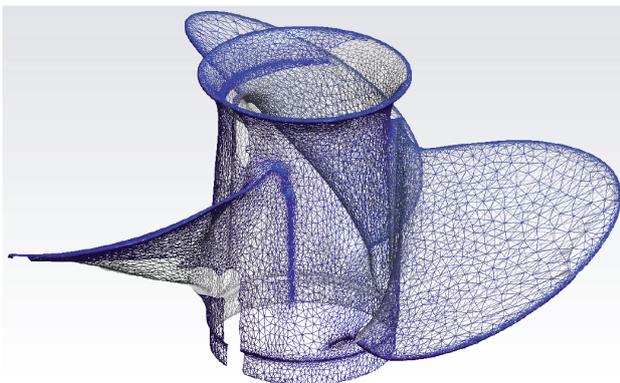
Align with Nominal

Measured Geometry can now be set to automatically align the origin and nominal axis with the nominal feature. This simple option eliminates the need to select Pin vs Hole when measuring cylindrical holes and provides greater clarity in reporting.

CLOUD AND MESH IMPROVEMENTS

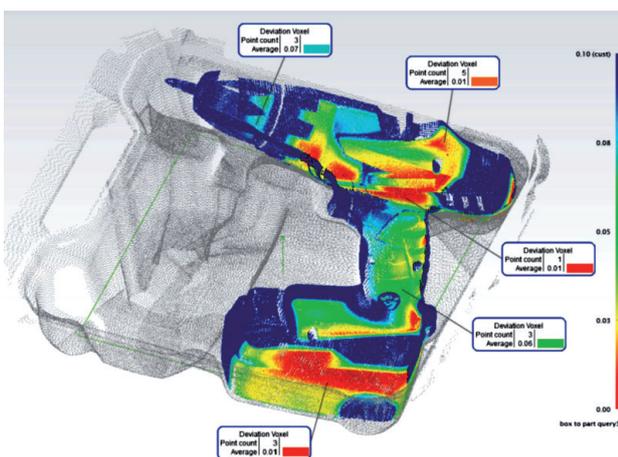
Wireframe Display

A wireframe display mode is now available for meshes. This can greatly facilitate mesh editing and inspection operations.



Cloud to Cloud Query

A new cloud to cloud query capability has been added to SA. This allows a user to directly compare clouds together without the need to build a mesh first. This operation builds a colorized cloud with the deviation values saved as voxel colors.



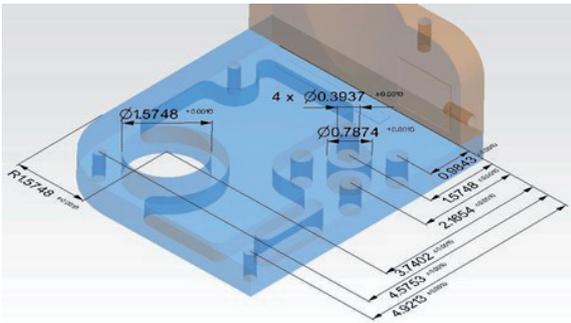
GD&T ENHANCEMENTS

Annotations from GR-Features

Orientation and form checks can be added to GR features directly after measurement and a properly oriented nominal will be built for you automatically.

GD&T Dimension Lines

In this version dimension lines have been added to increase clarity in SA Annotation construction.



This includes a new right-click configuration tool used for diameter, radius, slot dimensions and distance between annotations allowing precise position of GD&T dimensions.

GD&T Reporting Enhancements

Point Details table has been added for flatness checks.

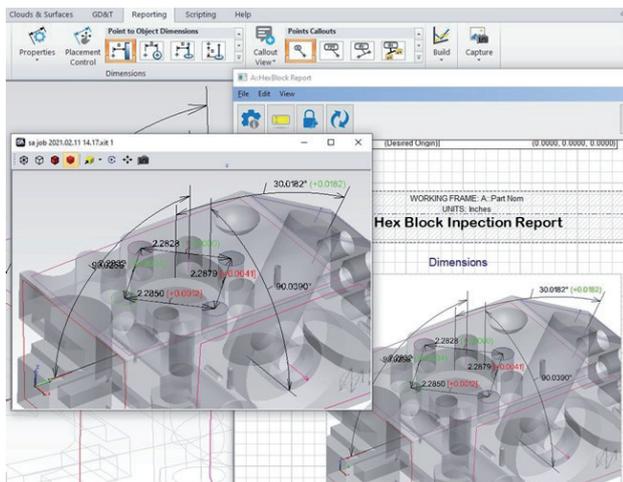
GD&T Feature Summary Tables now include divisions between datum to clarify the datums used when working with double letter datum.

GDT Feature Check Summary				
Tolerance	Special Characters	High Tol	Low Tol	Datums
0.2500				CK
0.0100	Ⓢ	+0.0060	-0.0040	AK B CK
0.0080				AK B CK

REPORTING IMPROVEMENTS

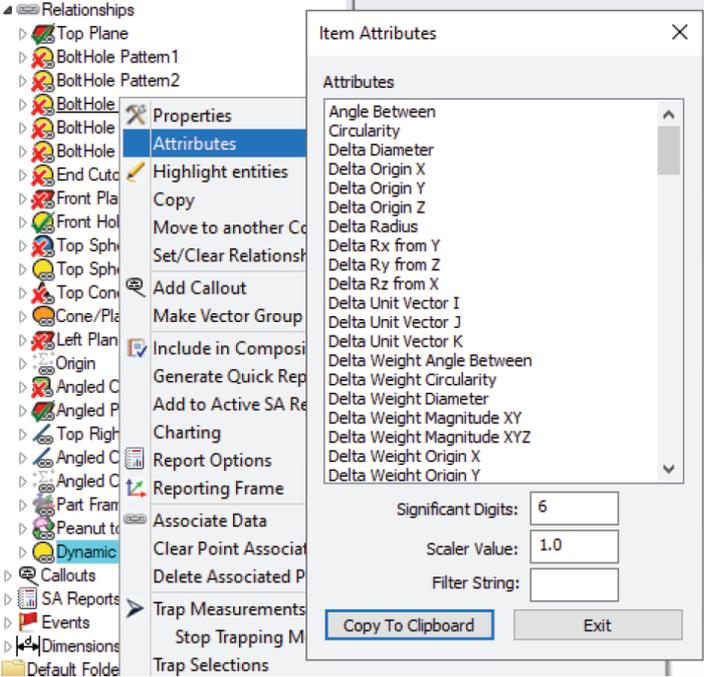
Interactive Callout Images

Callout images within SA Reports now offer direct access to layout and configuration controls through an Auxiliary Window. You can double click on the callout view in the report to open the edit window and change the view and layout as desired at any time. Doing so updates the callout image in the report.



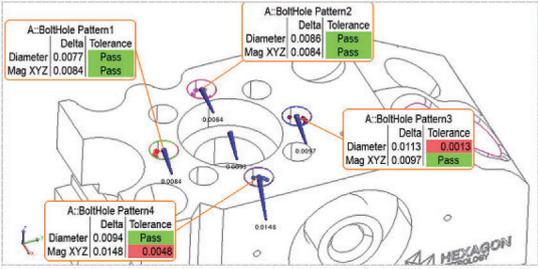
Report Attributes

Reporting Attributes are now directly available for GR-Features, GD&T Checks, Dimensions and Vectors. These dynamic tags can be copied and placed in a field or callout and will update as new measurements are acquired.



Dynamic Attribute Fields

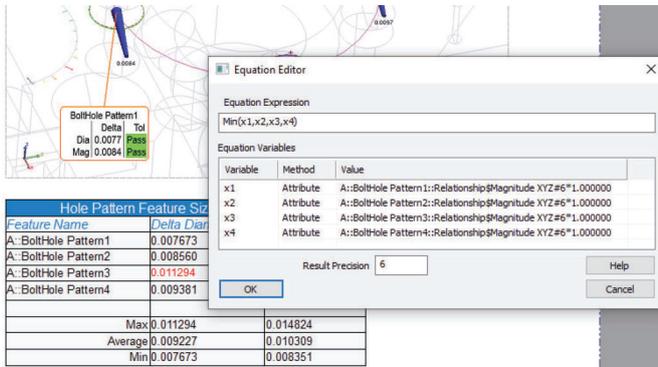
Attributes can be added to any field in a report. These dynamic tags update as a feature is measured or evaluated, dramatically increasing the flexibility of report template construction with complete control to build custom tables.



Hole Pattern		
Feature Name	Delta Diameter	XYZ Position Delta
A.:BoltHole Pattern1	0.0077	0.0084
A.:BoltHole Pattern2	0.0086	0.0084
A.:BoltHole Pattern3	0.0113	0.0097
A.:BoltHole Pattern4	0.0094	0.0148

Math Equation Fields

In addition to having direct access to any attribute in a reporting field you can also include these fields in a math equation to build fully customized reporting tables:



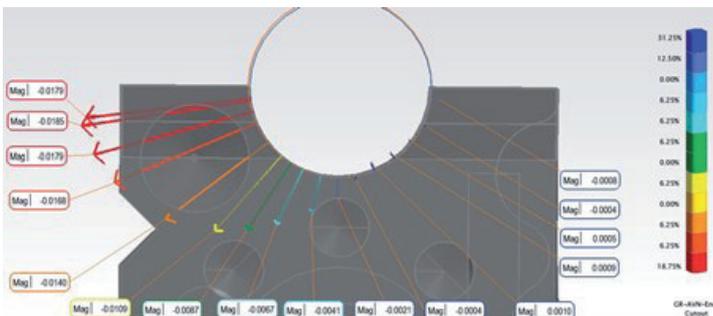
A comprehensive selection of math operations are available.

Text callouts with tags

Feature attributes can now be added in-line as part of a text callout.

Vector Border Color in Callouts

The border of a vector callout can now display the vector color corresponding to the deviation it displays.



INSTRUMENT UPDATES

Laser Trackers

Added support for the updated Faro 6prove which offers dynamic tip exchange capabilities. This comes with a new Faro JRE version 5.1.9.4 available on our website.

Total Stations

Added new interface for the Leica TS09 Total Station and basic measurement operations.