

# spScan 2021.1

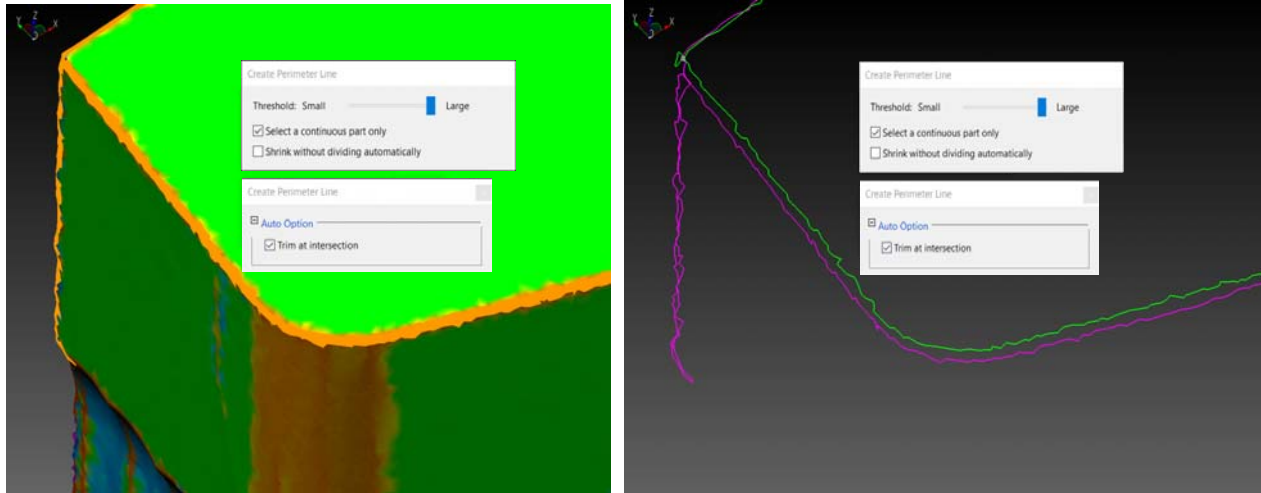
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## Upgrade News

## New Features

### [Demo]-[Create Perimeter Line]

Create a perimeter curve around the selected polygon mesh.



### [View]-[Show/Hide]-[Show All]

Now you can display all elements (polygon mesh, curve, surface) at once.

### [Demo]-[Obsolete Menus]-[Create Outline 2020]

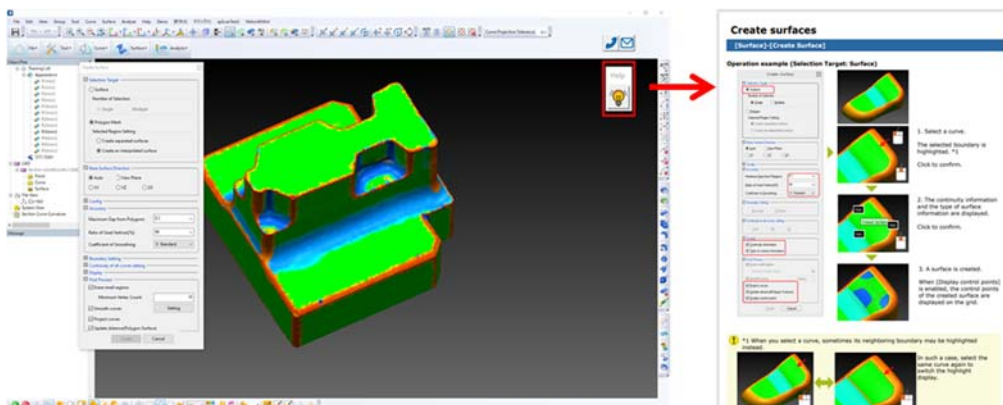
Changed the logic behind creating an outline (See Enhanced Features for details). The old logic from 2020.1 has been moved to a different menu as a feature in the past.

### [Demo]-[Output Points On Curve (IGES)]

Now you can export the points on a polyline as IGES.

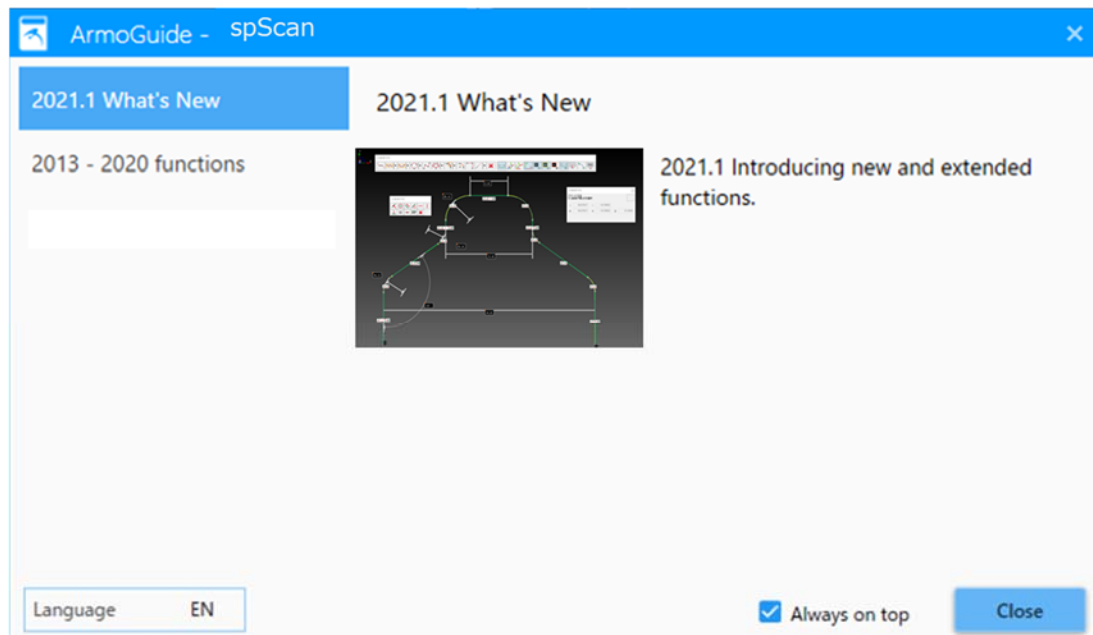
## The help dialog

For each topic within spScan 2020.1 Online Help that had "Operation Example (PDF)," in spScan 2021.1, you will now see a help icon (a bulb) on the screen when running the command. When you select the bulb icon, the "Operation Example (PDF)" for the currently running feature will open.



## ArmoGuide

Added ArmoGuide.



## Enhanced Features

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### [Processing Time Accelerated]

Accelerated each feature's processing time by revising the logic behind.

- IGES Import: Reduced processing time by 1/10.
- Create Multiple Base Surfaces: Reduced processing time by 1/3.
- Create Patch Domain: Reduced processing time by 1/2.
- Create Patch: Reduced processing time by 1/3.
- Remove curves: Reduced processing time by 1/2.
- Show/Hide switching of surfaces/curves: Now switches instantly.
- Undo/Redo in general: Reflected the effect of each feature's acceleration.
- Furthermore, the process to update a large number of display elements at once, such as updating the display attributes of curves/surfaces, has been accelerated.

### [Edit]-[System Settings]

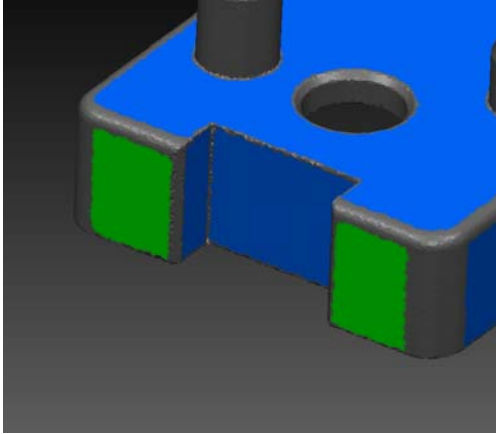
- The help dialog can be shown/hidden.
- Snap zoom feature can be enabled/disabled.
- The preview of [Create Surface]-[Create Fillet Surface]-[Create Fillet Surface with Radius] can be enable/disabled.

### [Polygon Mesh]-[Remove Tiny Edge]

Enhanced so that long and narrow polygons will not remain when removing tiny edges.

### [Surface]-[Create Multiple Base Surfaces]

- Enabled the display of the approximate time of creating multiple base surfaces on the progress bar.
- Enabled so that polylines can be smoothed even when edging is done in the post process.
- Enabled automatic creation of a common surface group for the same surface in the distant positions.



- Modified the specification method of the rounding value. Enabled rounding to an integer or in increments of 5.
- The initial settings of spline surface can be changed before previewing.
- Enabled settings of disabled polygon mesh vertices.

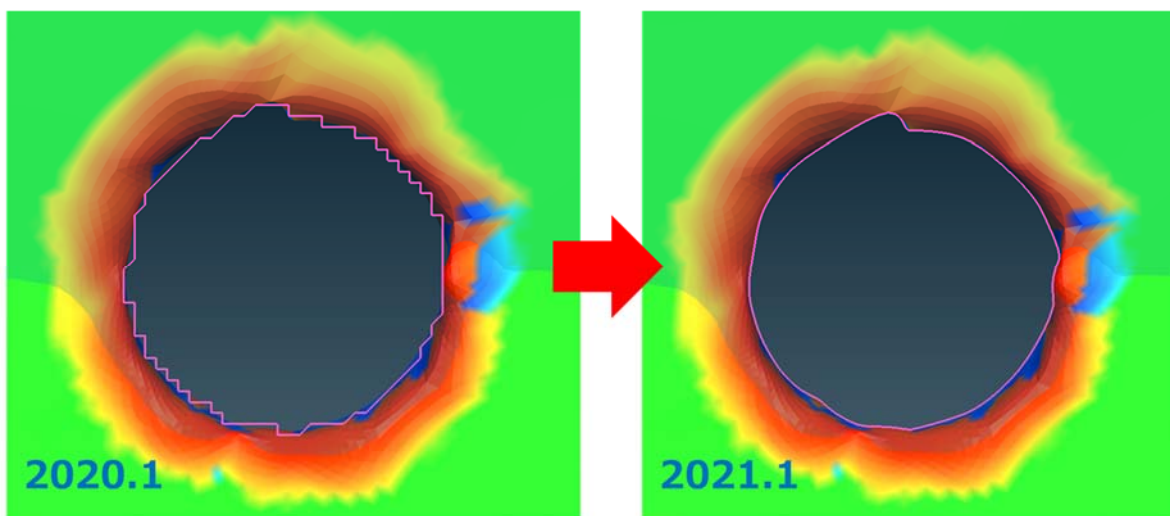
### [Curve]-[Create Reference Section Curves]

Now you can create a vertex on an intersection between a plane and an existing curve.

### [Curve]-[Create Outline]

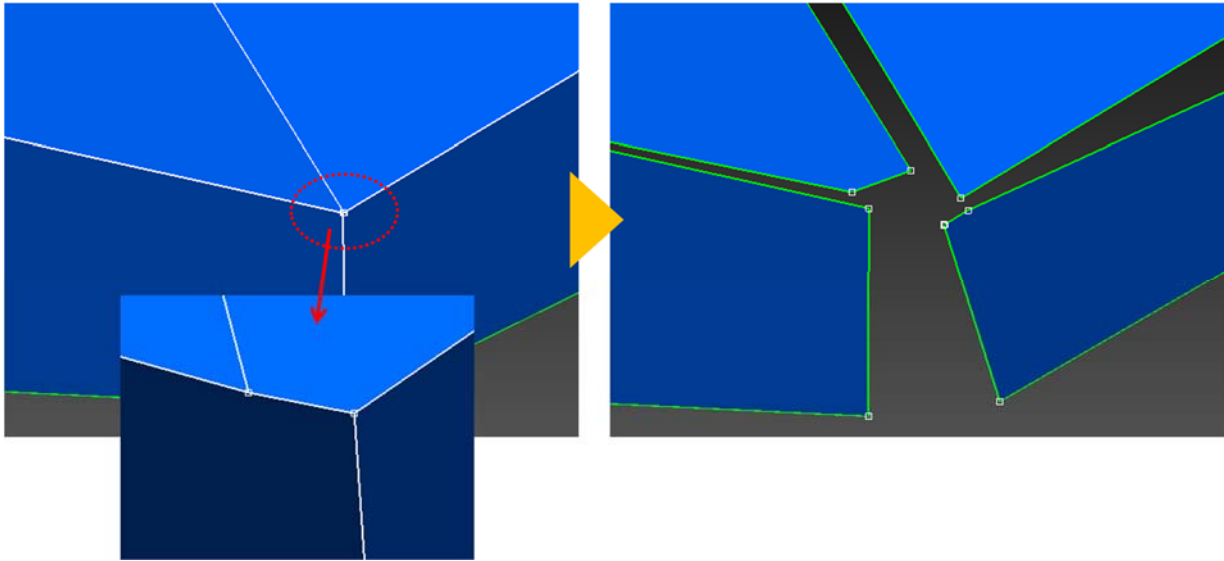
Changed the logic to create a faithful outline for the selected polygon mesh.

- In accordance with a logic modification, the outlines that can be created is now displayed by [Preview] button.
- Moved the old logic of 2020.1 to [Demo]-[Obsolete]-[Outline 2020].



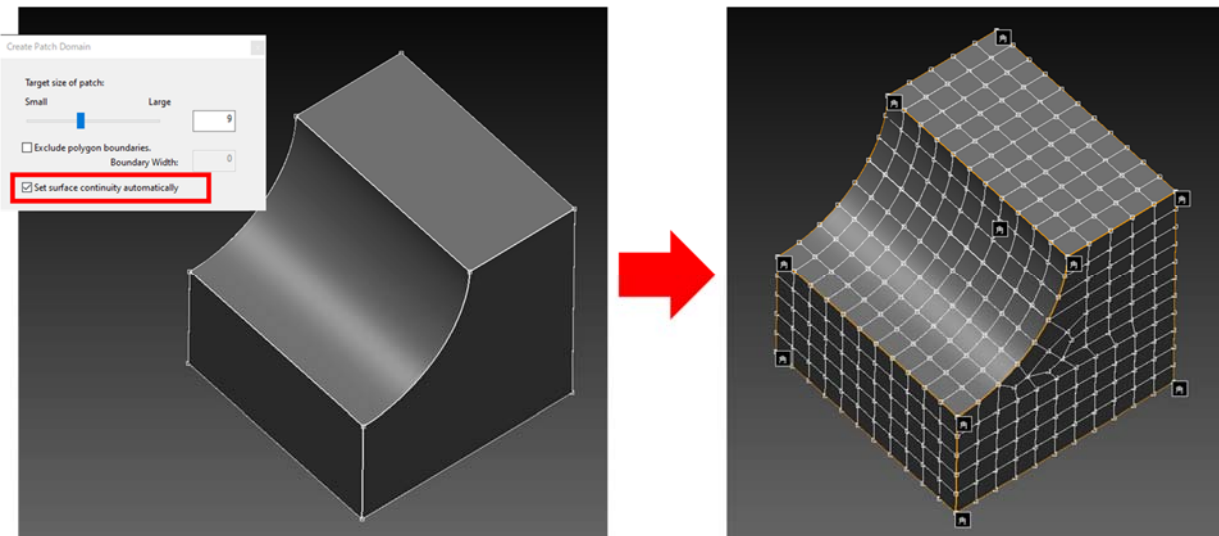
## [Surface]-[Surface Repair Tools]-[Unshare Edges]

A vertex can be selected to unshare edges. Edging parts can all be unshared.



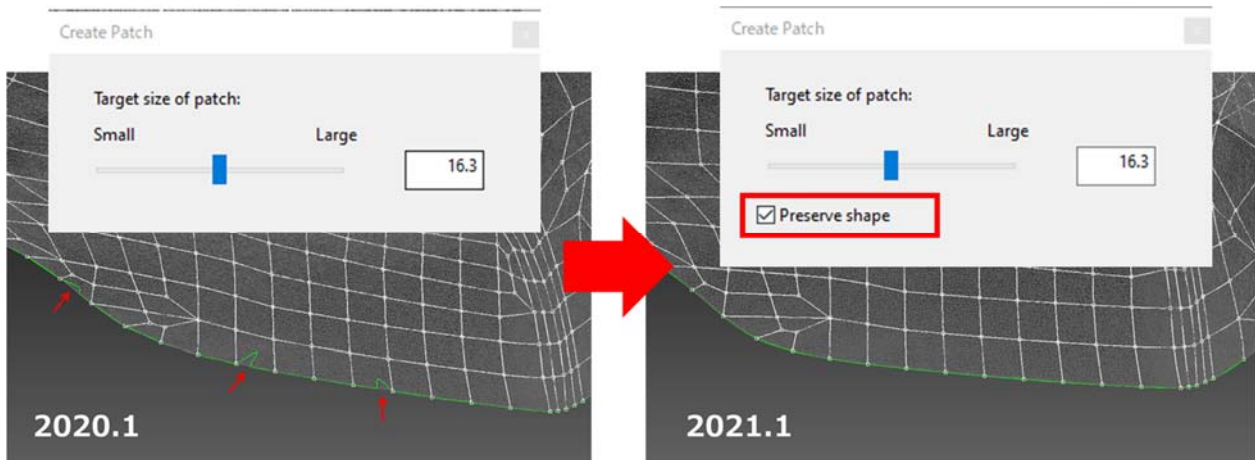
## [Surface]-[Patch]-[Create Patch Domain]

- Accelerated the processing time.
- Surface continuity (G0) can now be automatically set on the curve at the bend of polygon mesh.
- Character curves that reproduce polygon boundary shape can now be created.



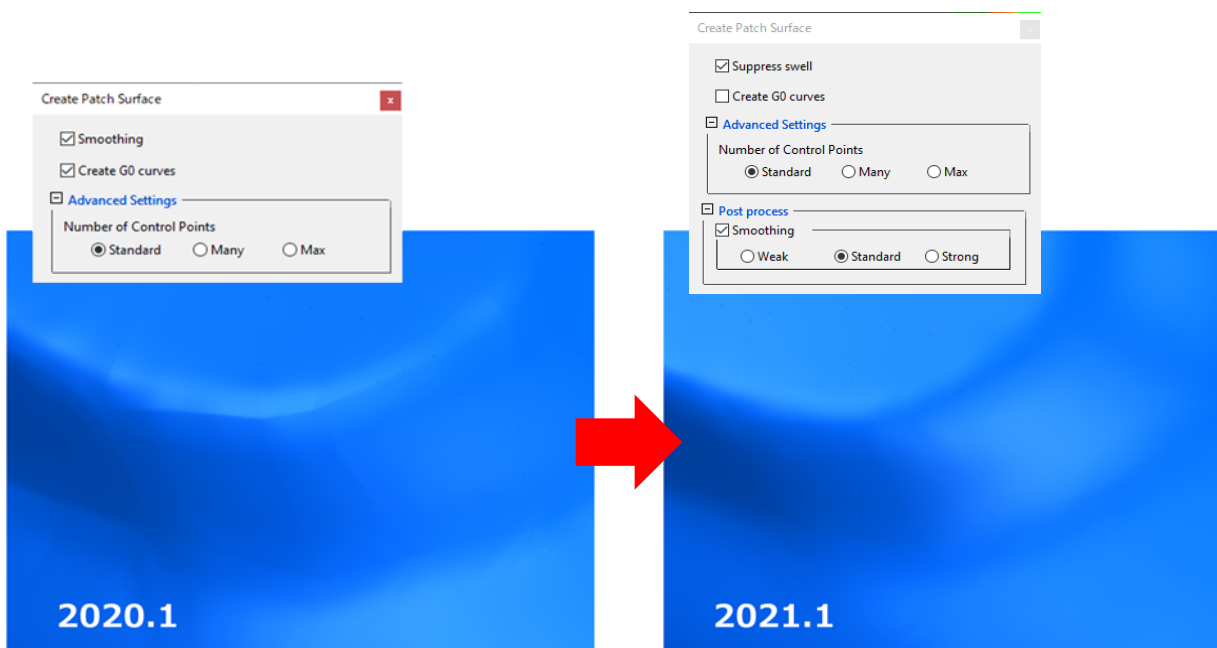
### [Surface]-[Patch]-[Create Patch]

- Accelerated the processing time.
- Now you can patch divide while suppressing the shape deformation of a character curve.



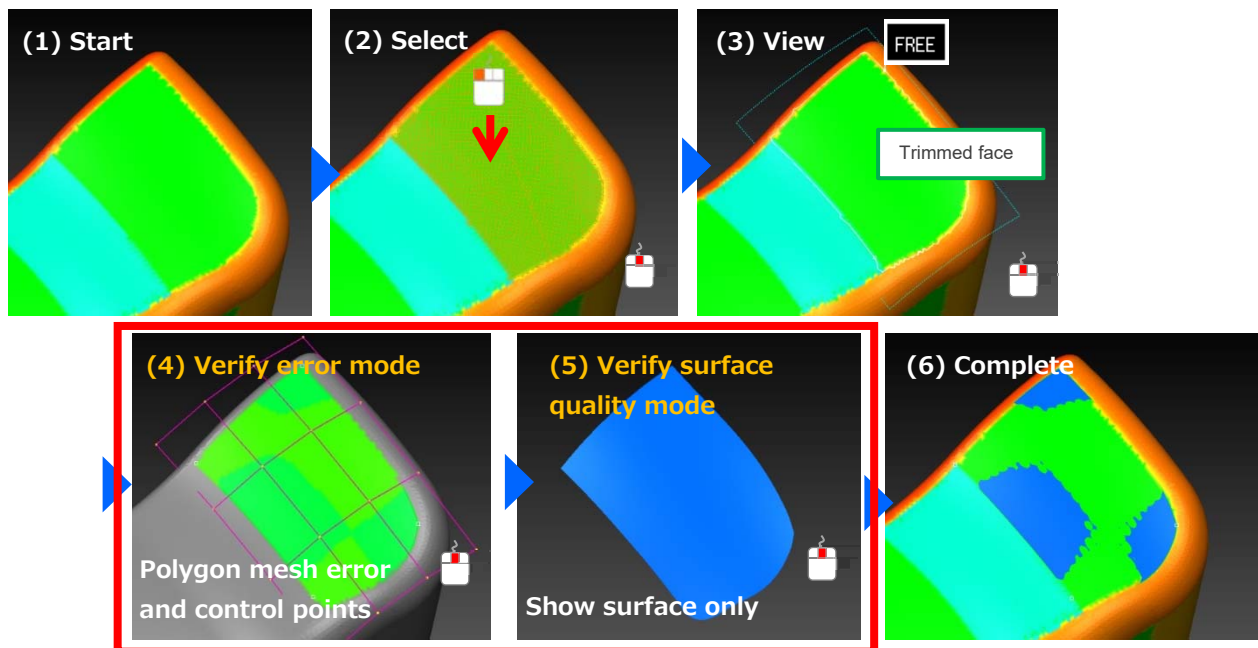
### [Surface]-[Patch]-[Create Patch Surface]

- Accelerated the processing time.
- Added a feature to create a patch with swell suppressed.



## [Surface]-[Create Surface]

- Added a surface preview feature, so that a surface can be re-edited, when it has a problem.
  - Added an error verification mode.
  - Added surface quality verification mode.
- The display status of elements (polygon mesh, curves, surfaces) necessary for the creation mode can be changed automatically leading to resolving the time lost in the display switching time.



No need to switch to another view!  
Errors and the surface quality are verified at the same time.

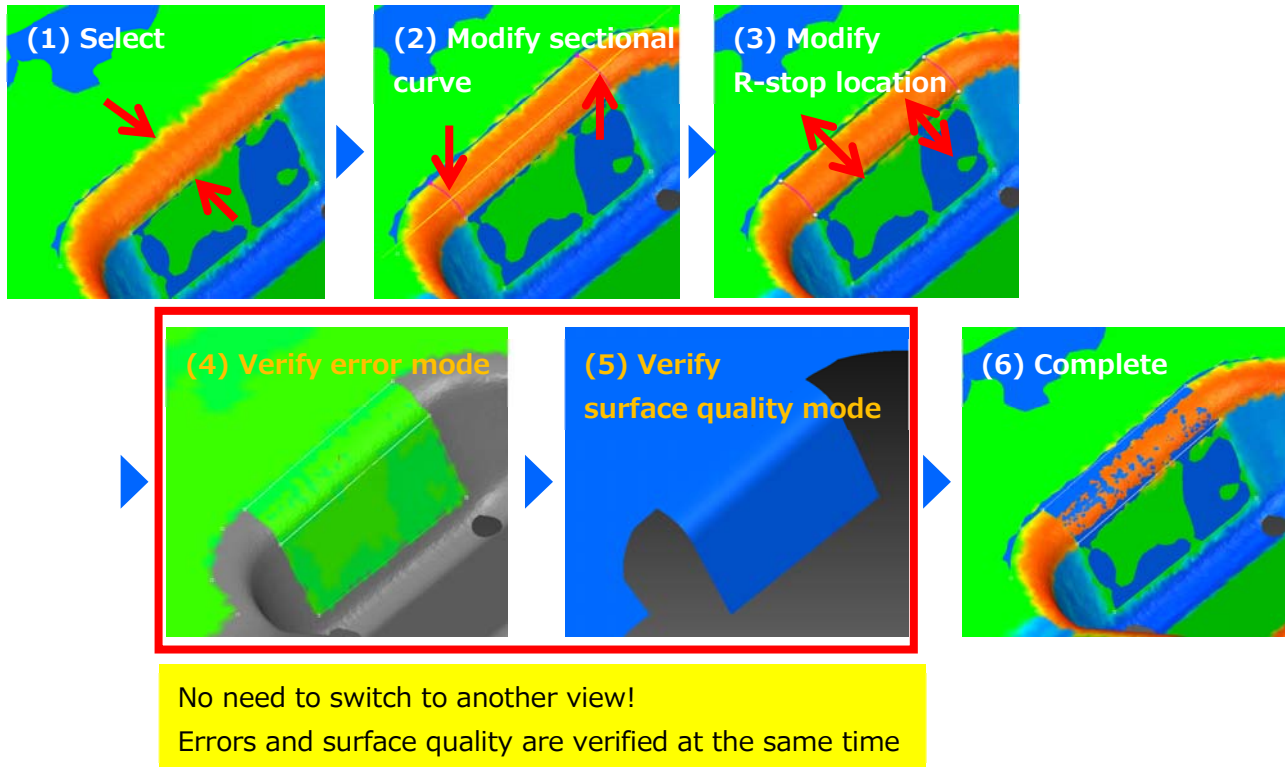
## [Surface]-[Auto Create Surface]

Measures have been taken, in the topology creation feature, to ensure that the curve inserted in the middle of automatically creating surface does not become a free curve.



## [Surface]-[Create Fillet Surface]

- Added a surface preview feature, so that a surface can be re-edited, when it has a problem.
- Addressed the display switching issue by automatically changing the display status of elements necessary (polygon mesh curves and surfaces) in the error verification mode and surface quality verification model.



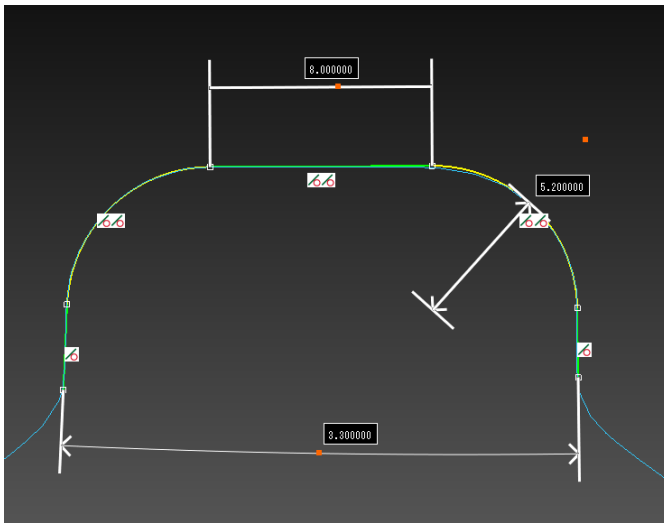
## [Surface]-[Create Fillet Surface with Radius]

Added a surface preview feature, so that a surface can be re-edited, when it has a problem.

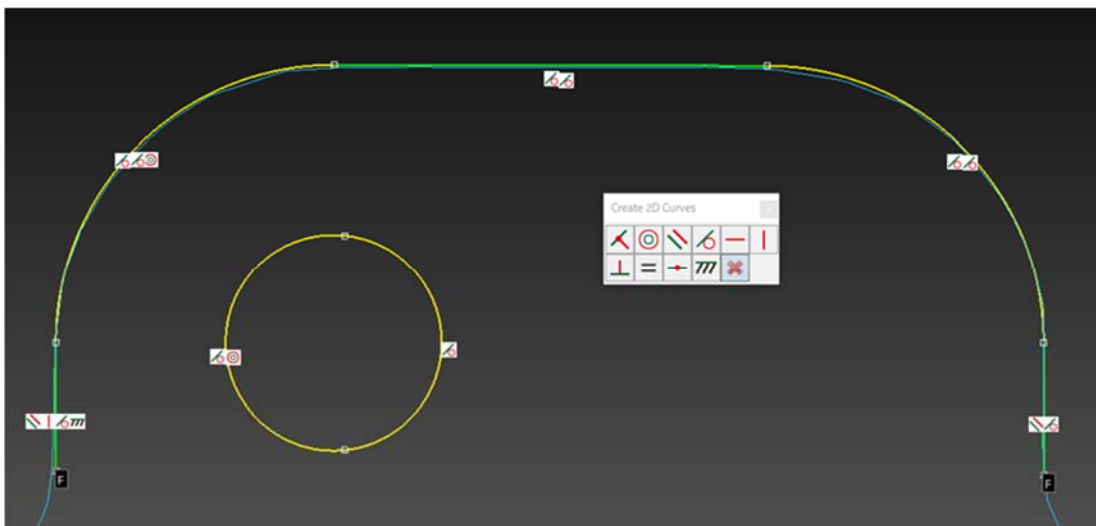
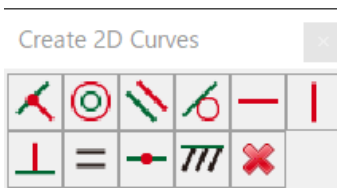
## [Curve]-[Create 2D Curves]

Now constraints can be added.

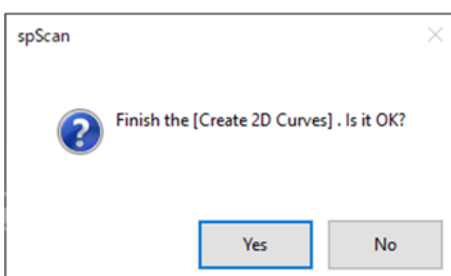
- Smart dimension: Now you can set a smart dimension.



- Position constraints: Position constraints such as Parallel and Perpendicular between elements can be added.

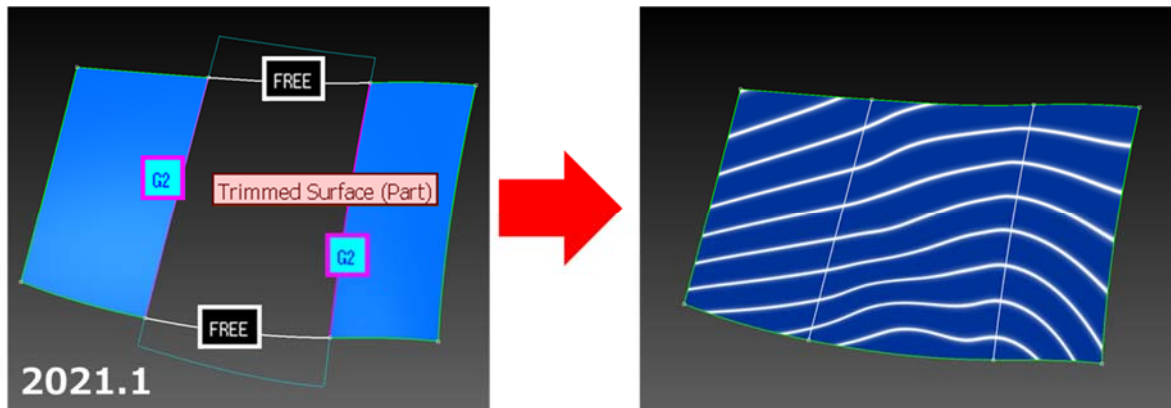


- A verification message is displayed when 2D curve creation is completed.



### [Demo]-[G2]-[Create G2 Surface]

In spScan 2020.1, G2 surface creation was possible only in 4-sided structured internal surface, but in spScan 2021.1, G2 surface creation is possible even with trimmed surfaces.



### [Demo]-[Edit Curve]-[Project Curve (Specified Plane)]

In spScan 2020.1, only free curves could be selected, but now in spScan 2021.1, all curves can be selected.

### [Demo]-[Polygon Estimated Deformation]

“Distance threshold” between polygon mesh when compensating deformation and the CAD surface can now be specified.

### [Demo]-[Context Menu Settings]

Increased the maximum number to display to 20.

### Number of times of Undo

The maximum number that can be undone has been increased to 100 times. Changed the initial value to 50 times.

## Resolved Issues

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### **[Demo]-[Import IGES (Free Curve) ]**

Addressed issue where the check status of [Share Vertex] switched every time it was executed.

### **[Curve]-[Create Outline]**

Addressed issue where the direction obtained from [Pick] button was rounded.

### **[Surface]-[Create Primitive Surface]**

Addressed issue where the value used ignored the status of the dialog, when [Use selected polygons] button was pressed.

### **[Surface]-[Create Multiple Base Surfaces]**

Addressed issue where the initial value of the distance with the polygon mesh was the same as the curve projection value.

### **[Surface]-[Edging]**

Addressed issue where exception error occurs when edging the inner loop of a plane and a cylinder/cone.

## Developer

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