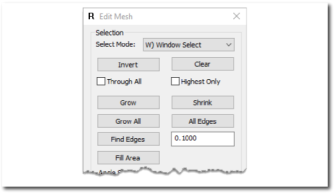
What's New in Verisurf 2020: Release Highlights

Verisurf 2020 sets a new standard for robust and efficient Reverse Engineering workflows – and lots more. In addition to broad new Reverse Engineering capabilities, including the powerful new Quick Surface for Reverse option, Verisurf 2020 is packed with useful improvements, practical new features, and expanded device support. Get the latest Release Notes from the Verisurf Downloads page to read the details about any of the any of the major improvements listed here and learn more about the unique value Verisurf 2020 delivers right now.

- *Auto create surfaces from 3D meshes*
- *Controls curvature continuity at edges*
- *Ideal for creating Class A surfaces*

Quick Surface - Powerful, High-Quality Surfacing Arrives

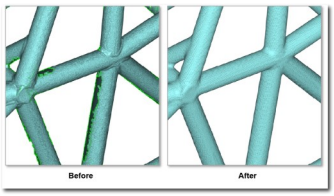
Quick Surface is a powerful, new option for Verisurf Reverse that quickly creates smooth, high-quality surfaces from scanned meshes or STL files. Quick Surface maintains curvature continuity between adjacent surfaces an is ideal for creating smooth, high-speed toolpaths. With Quick Surface, it's a snap to produce freeform CAD surfaces from organic or prismatic Verisurf meshes and assess the surface to mesh fit prior to export for further, downstream processing.



- *Expanded/Improved mesh editing tools*
- *Consolidated in a single, intuitive dialog*
- *New Selection, Interaction, & Fit tools*

New Mesh Editing Power Provides Ultimate Control

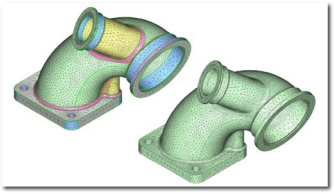
Verisurf 2020's mesh editing functionality has been vastly expanded and consolidated into a single, convenient dialog that gives operators granular selection control and accelerates modeling speed. New Select Mode hotkeys enable rapid mesh selection switching that can be used in conjunction with new Grow, Grow All, Shrink, All Edges, Find Edges, and Fill Area options. New Offset, Project, and Flip Normals mesh Interaction functions offer useful functionality while Fit Feature functions have been enhanced to fit individual features to separately-selected regions - and more.



- *Improve meshes prior to surfacing*
- *Increase or decrease mesh density*
- *Option to force closure of open edges*

Expanded Power Mesh Settings Improve Utility

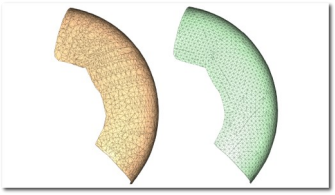
Power Mesh is a simple mesh creation tool that merges, cleans up, refines, smooths, extends, and fills holes in 1 step. Verisurf 2020 adds a user-settable Density control that produces finer meshes in regions of greater curvature when needed and a Close Boundary option when a watertight mesh with no open boundaries is required.



- *Connect discontinuous mesh edges*
- *Settable tolerance controls sensitivity*
- *Integrate multiple meshes in 1 command*

Assure Mesh Continuity with New Stitch Mesh

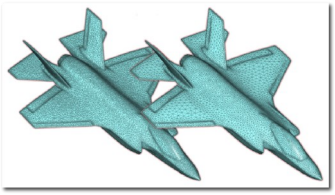
Reverse engineering modeling workflows often result in discontinuous mesh edges at common boundaries (as illustrated in the picture at left where different model regions have different colors). Verisurf 2020's new Stitch Mesh function connects mesh edges and vertices within a user-settable Tolerance to enforce mesh continuity. Stitch Mesh makes it very easy to mesh multiple CAD surfaces individually and then stitch them back together into a single, watertight mesh for 3D printing applications.



- *Improve meshes prior to surfacing*
- *Filter, Smooth, & Align to Boundary*
- *Recognizes & preserves Sharp Edges*

Improve Mesh Quality with Quad Mesh Function

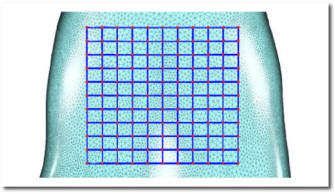
The 2020 release introduces Quad Mesh to Verisurf Reverse. Quad Mesh can perform several, simultaneous operations to produce highly-uniform, triangular or quad-type smooth meshes prior to surfacing that are aligned with the surface's flow of curvature. Associated settable mesh parameters can Align (the resulting mesh) to Boundaries, control mesh Density, preserve Sharp Creases, select Element Type, and Smooth.



- *Reduce density while maintaining quality*
- *Detect & preserve Sharp Edges*
- *Control mesh density transitions*

Use Optimize Mesh to Generate Uncompromising Results

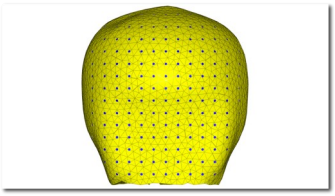
Use the new, Optimize Mesh reverse function to confidently reduce the size of any polygonal mesh without compromising form integrity. Optimize Mesh regenerates a mesh using a fixed, Maximum Edge Length for each triangular element. In regions of greater curvature, Optimize Mesh creates a finer mesh density based on a settable Chordal Tolerance value while detecting and preserving any Sharp Edges (if desired). A Gradation setting assures the smoothest possible transition of elements from regions of higher to regions of lower mesh density to minimize element skew.



- *Freeform sketching on meshes*
- *Snap to spline nodes & endpoints*
- *Create rectangular grid of splines option*

Vastly-Improved Sketching on Meshes for Reverse Engineering

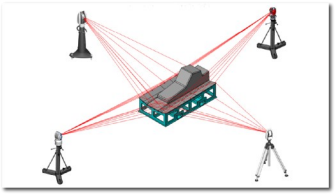
Sketching splines on any mesh surface as a step in the R.E. process just got a whole lot easier. The Sketch on mesh tool now automatically snaps to any existing, parametric spline node or wireframe entity on the mesh and all spline nodes are displayed as red spheres (●) for better visibility. We've also added Hotkeys to **B**reak, **C**lose, Save and Continue (**E**nter or double left mouse click), and control the number of nodes created (enter **1-9**). Use the **R** Hotkey that can be used to create an orthogonal grid of spines



- *Create pointcloud grid on selected mesh*
- *Project based on current graphics view*
- *Control spacing using distance setting*

Convenient Project Grid Option for Mesh Construct Tool

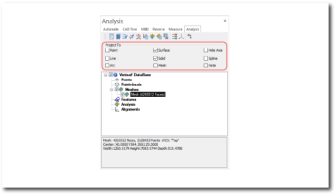
The mesh/Construct tool in Verisurf Reverse has been improved with the addition of a Construct Grid option. Construct Grid projects a grid-shaped pointcloud onto the displayed mesh surface based on the current Graphics view (normal to the screen). A user-definable Distance setting is provided to control the resulting pointcloud density.



- *New Bundle Feature Point object*
- *Traceability with dynamic fitting*
- *Sort by RMS, Fit, Error, Length, & Scale*

Bundle Points Updated to Improve Data Mgt, Quality, and Reporting

In Verisurf 2020, the Construct Bundle Points function now creates Feature Points in the data tree This allows the operator to exploit the Calculate Fit dialog in order to view results from each data group. Bundle Point analysis method options now include Bundle Total Stations, Weighted Average, and Minimum Zone. Additional, useful statistics details are displayed along with more data sorting options based on Error, X, Y, Z, RMS, (beam) Length, Probe Radius, or Scale. Results are further improved with the ability to remove outliers with a new Reduce Noise tolerance setting. A Statistics Summary can also be included in reports for each Bundle Point.



- *Projection settings at top of Ops Mgr*
- *Streamlines common Analysis workflows*
- *Reduced need to open Preferences dialog*

Addition of Projection Masks to Ops Mgr Streamlines Workflows

Verisurf 2020 adds user-selectable Project To settings to the top of the Analysis dialog in the Operations Manager. This often-requested enhancement streamlines workflow efficiency by reducing the need for opening the Verisurf Preferences dialog to change projection mask settings when performing Analysis or Best Fit procedures.

- *No hardware to break, lose, or replace*
- *No more shipping or customs issues*
- *Fast, easy license activation wizard*

More Flexible Verisurf Network Licensing Options

Customers now have the option to use software-only network licensing and avoid the need to keep track of a USB license dongle to enable the use of their Verisurf software solutions. This alternative may be particularly useful to international customers who can eliminate shipping costs, delays, and customs issues. For more information on transitioning from USB dongle-based licensing to software-only network licensing, please contact your authorized Verisurf representative.

- *Improved functionality for current devices*
- *New scanner, probe, & tracker support*
- *Seamless integration through VDI*

Verisurf Supports the Latest Metrology Hardware

Verisurf makes every attempt to provide seamless integration with commonly-used and recently-released metrology hardware from leading suppliers including: fixed CMMs, laser trackers, CMM arms, scanners, laser radar, and other relevant equipment. The Verisurf Device Interface (VDI) accompanying the Verisurf 2020 software release includes new or enhanced support for device hardware from: Kreon, zCAT, FARO, Romer, Nikon, API, Leica, Renishaw. Deva, and Stiefelmeyer as well as Verisurf's CMM Master.

- *One translator for all native formats*
- *STEP AP242 w/ MBD/GD&T compatibility*
- *CATIA V4/V5/V6, Siemens NX, and PTC Creo options*

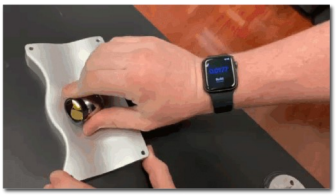
All-in-One Translator Bundle

No need to worry about tracking compatibility with each new release for common, native geometry formats. Verisurf's consolidated Moldplus translator bundle does it all for you. Translator solutions with maintenance automatically provide updates to CATIA, NX, and PTC Creo revisions (along with STEP and JT) as they become commercially available.

- *View DRO and record values remotely*
- *Real-time Build for inspection/assembly*
- *Run Auto Inspect & view reports*

Go Mobile with the Verisurf Companion App for iOS and Android Phones

Interact with any active Verisurf session using the new VS Companion App. VS Companion is easy to use, supports touch-screen gestures, and can vastly simplify and expedite metrology workflow tasks. Works with any PC running a Verisurf session on the same network. It is secure (no data is saved to your wireless device), flexible (iOS, Android, and Apple TV compatible), and very fast (no lag time between your Verisurf session on the PC and the VS Companion App).



- *View, Build, or Measure DRO hands-free*
- *Simple tap-to-trigger in current mode*
- *Available for iOS and Android watches*

Hands-Free Mobile Verisurf Access

Verisurf continues to innovate in the metrology workspace with the release of VS Watch by bringing the first real-time Build DRO to smart watches. Operators can now view dynamic Build or Measure DROs hands-free on iOS- or Android-compatible watches during measurement data collection. Easy setup, user preference customization, and 1-finger gesture support for mode switching makes mobile metrology using Verisurf easier than ever. VS Watch is available now in the iOS or Android App Store.

Verisurf 2020 includes new device support and additional improvements beyond those listed here. Get Verisurf 2020 now:

Get Verisurf 2020

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3D Measurement Solutions