

## **Oggetto: Novità della versione Rhino 7**

**Disponibile dal 9 Dicembre 2020**

### **Modeling**

- Subdivision Surfaces 3.5k
- BlendSrf - New Refine checkbox avoids creating a simpler blend surface
- Revolve - Ends of the revolving axis can be attached to objects using object snaps when History is recorded.
- MatchSrf - History locking allows editing control points of matched surfaces
- DupBorder: Added History support
- FilletSrf now has a G2 option.

### **Editing**

- Curve Surface Intersections - improves results for trims, splits, and booleans. Also in our testing results can be 4x faster in some cases
- Named Selections
- Changed the spacing of control points in BlendEdge based on customer feedback
- Boolean Operations - Have been improved to union, subtract or intersect coplanar surfaces

### **Mesh Tools**

- Quad Remesh
- Mesh Intersections
- MeshSelfIntersect

### **Analysis**

- EdgeContinuity Uses line hairs to visualize distance, tangency, and curvature between an edge pair
- PointDeviation: Added Maximum distance and minimum distance statistics
- Clash Detection 1.3k - a new Grasshopper component

### **Display**

- Display performance improvements for nested blocks, annotation, and detail viewports
- Rendered Display mode captures more lighting in a realtime working mode
- Viewports and Rhino Render now use the same rendering settings
- Transparent color support on layers and objects
- Per face color support for polysurfaces and SubD

### **Rendering and Presentation**

- Rendering Improvements (Rhino Render)
- New Rhino Render (Cycles) - Modern progressive rendering technology including advanced usage of both the CPU and GPU hardware
- Plugin extendable Post-effects, tone mapping, and final image filters
- Denoisers supported
- PBR Materials
- LayerBook 1.2

### **Drafting and Printing**

- Layout Panel - new panel for layout management
- Text Field Enhancements
- Block Attributes
- Gradient and Transparent Hatches
- New Grasshopper components for hatching
- Display Color Transparency on objects and by layer

### Digital Fabrication

- Single Stroke (Engraving) Fonts - detected in text and properly output in vector format
- Mold Making improvements
- Draft Curve for split lines
- RibbonOffset
- Straighten Sections in Blend Command added

### Development Tools

- Rhino.Compute 1.4k
- RhinoCommon additions
- File import/export support through headless RhinoDocs
- 1000 new properties and methods
- Rhino.Inside CPython
- rhino3dm (python, web assembly, and .NET)
- Grasshopper improvements
- New Clash Detection 1.3k component
- New Hatch components
- Placeholder objects for unknown components
- Grasshopper inside other environments through Rhino.Inside
- Grasshopper solver online through Compute servers 1.4k
- GrasshopperPlayer and grasshopper based native Rhino commands
- Package Manager installs missing components without a restart

### Compatibility

- Rhino.Inside Revit 2.5k
- File Format updates
  - 3DS/FBX Import - New Open/Import meshes as SubD surfaces option
  - CSV Export - Supports exporting group names and indexes
  - DGN import - Updated to use OpenDesign 20.8
  - DWG/DXF - Attribute User Text and ACAD xData can be exchanged
  - DWG/DXF Import - Supports reading gradient patterns as gradient hatches
  - DWG/DXF Export - Supports writing gradient hatches as gradient patterns
  - DWG/DXF - The Open command disables Layout space scaling
  - DWG - Imports block descriptions
  - GES Export - Supports SubD
  - FBX/3DS Export - New Export lights and Export views options
  - FBX/3DS Import - New Import lights, Import cameras, and Prompt to scale on import options
  - OBJ Export - Convert SubD surfaces or control nets into meshes
  - OBJ Export - New Use display color for objects with no material set checkbox
  - PDF Export - Supports Layers
  - SOLIDWORKS import: Supports up to version 2020
  - STEP Import/Export - Supports per-face colors
  - STEP Import - Added progress report during parsing STEP files
  - STEP Export - Supports SubD
  - SVG Export - Supports exporting transparent objects
  - VRML Import/Export - Supports PointClouds (PointSets in VRML)
- Copy/Paste between Rhino and Illustrator / InkScape / Affinity Designer (currently Windows only)

Download della versione di prova e requisiti di sistema disponibili sul sito [Rhino3d.com](http://Rhino3d.com)