WHAT’S NEW IN SOLIDWORKS 2019—DESIGN TO MANUFACTURE

1. MESH MODELING IMPROVEMENTS SPEED REVERSE ENGINEERING, TOPOLOGY OPTIMIZATION AND 3D PRINTING
   - Easily create complex textures by converting 2D appearances into real 3D geometry
   - Use mesh files like they are solids using the new Segment Mesh
   - Automatically create 2D sketches at intersections of geometry and a plane with the slicing command

   **Benefits**
   Increased capabilities for mesh geometry, streamlining reverse engineering and topology optimization.

2. SMARTER MACHINING WITH SOLIDWORKS CAM/MACHINIST
   - Corner Slow Down and Arc Feedrate allow slowdown when approaching sharp corners and arcs
   - Create machine-specific machining strategies
   - Tooling improved with support for tapered shanks and more parameters

   **Benefits**
   Enhanced user control and automation for each operation and machining strategy.

3. INCREASED PRODUCTIVITY AND FLEXIBILITY WITH SOLIDWORKS INSPECTION
   - Improved Bill of Characteristics with new grid layout and group/ungroup
   - Additional extraction options to include hole tables for use on complex parts
   - Integration with SOLIDWORKS® PDM to manage and organize inspection projects and deliverables

   **Benefits**
   Increased productivity when creating quality control documentation.

4. IMPROVED WORKFLOWS WITH SOLIDWORKS COMPOSER FOR TECHNICAL DOCUMENTATION
   - SOLIDWORKS PDM integration enables access to PDM functionality directly from the ribbon within SOLIDWORKS Composer
   - Import Product Manufacturing Information (PMI) data directly from SOLIDWORKS models into SOLIDWORKS Composer
   - New icons, new commands and support for five new languages

   **Benefits**
   Improved workflow integration with SOLIDWORKS, productivity improvements and enhanced user experience.

5. VISUALIZATION AND RENDERING—MAKING THE DIGITAL WORLD MORE REAL... FASTER
   - AI (Artificial Intelligence) Denoiser—Uses AI to decipher and eliminate noise from your renders
   - Integrated Physics Engine & Vehicle Driving Simulator for faster scene setup and real-time design review
   - Enhanced Decal features and support for Video Decals

   **Benefits**
   Set up your projects and instantly render them 10x faster with real-world physics and advanced measured materials.
**CONFIGURE AND RENDER PRODUCTS ON THE FLY AND ONLINE WITH SOLIDWORKS SELL**

- Click to add SOLIDWORKS designs to a SOLIDWORKS Sell cloud-based configurator
- Use on any device to share concepts and configurations of designs quickly
- Use Augmented Reality (AR) to show products in their actual environment

**FROM CAD MODEL TO REAL PARTS IN RECORD TIME WITH 3DEXPERIENCE MARKETPLACE|MAKE**

- On-demand manufacturing across all manufacturing processes
- Place orders, track communications and collaborate with leading manufacturers worldwide
- Seamless integration between SOLIDWORKS and your favorite manufacturers

**ENHANCED MBD (MODEL BASED DEFINITION) CAPABILITIES FOR FASTER 3D ANNOTATION OF MODELS**

- DimXpert renamed to MBD Dimension and now available in Assembly mode
- Create bend tables, bend notes and flat views automatically for sheet metal parts
- 3D annotations passed to derived and mirrored parts
- Enhanced security controls for 3D PDF outputs

**MORE POWERFUL SIMULATION CAPABILITIES**

- Topology Optimization with Stress and Frequency constraints/goals for optimum parts
- Enhanced non-linear pin connector for accurate pin and clevis analysis
- Easy data reuse with drag-and-drop connectors/contacts into Non-Linear Dynamic studies

**SOLIDWORKS ELECTRICAL AND PCB IMPROVED FOR FASTER MECHATRONIC DESIGN**

- Drive mechanically-oriented PCB placement barriers for SOLIDWORKS PCB
- Auto-generate flattened route drawings and related tables in SOLIDWORKS Electrical
- Use splices from SOLIDWORKS Electrical schematics utilizing passing circuit symbols in 3D

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