WHAT’S NEW IN SOLIDWORKS SIMULATION 2018: TOP TEN ENHANCEMENTS

1. **TOPOLOGY STUDY (SIMULATION PROFESSIONAL)**
   - Optimize the shape of your design based upon a target mass goals.
   - Incorporate manufacturing and stiffness constraints to deliver manufacturable components.

   **Benefits**
   - Find new and innovative minimum mass solutions to your design and simulation challenges.

2. **FREE SURFACE FLOW (FLOW SIMULATION)**
   - Solve flow problems where the liquid and gas touch—for example, channel, sea and river flow, tank filling, and emptying.

   **Benefits**
   - Easily solve complex flow problems to ensure product performance.

3. **EASY ASSEMBLY SIMULATION SETUP (SIMULATION ALL)**
   - Simulation setup from parts can be imported into an assembly analysis.
   - Re-use complex mesh and material quickly and easily.

   **Benefits**
   - Accelerate assembly analysis.

4. **CONNECT THREE OR MORE SURFACES WITH THE ENHANCED PIN CONNECTOR (SIMULATION)**
   - Create and analyze multi-surface pin connections easily and with greater accuracy.

   **Benefits**
   - Simplify the analysis of a common critical assembly process.

5. **SIMPLIFIED AND AUTOMATED MESHING WORKFLOW (PLASTICS)**
   - Re-designed meshing process: it is more intuitive for you to create a mesh with automatic tools with mesh controls.

   **Benefits**
   - Easy meshing tools for fast accurate results.
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**SIMPLIFY ANALYSIS DOMAIN WITH SECTOR PERIODICITY (FLOW SIMULATION)**
- Simplify the analysis and accelerate problem solutions for geometries that have rotational periodicity without sacrificing accuracy.

**Benefits**
- Accelerate and simplify flow analysis without compromising accuracy.

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**UPDATED ADAMS SOLVER (MOTION)**
- The updated motion solver adds speed, reliability, and enhanced quality.

**Benefits**
- Enhanced quality for motion simulation.

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**ENHANCED STRESS SINGULARITY DETECTION**
- Locate and investigate stress singularities (or hot spots) at contacts areas and non-re-entrant corners.

**Benefits**
- Detecting and investigating stress singularities accelerates the analysis process and speeds the design process.

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**NEW RESULTS PLOT (PLASTICS)**
- Use the Density at End of Pack simulation result as a guideline to evaluate the effectiveness of your packing stage.
- The Warp measure tool is enhanced to display the shrinkage amount (the distance between two reference nodes) both in terms of the absolute value (dR) and percentage value (dR [%]).

**Benefits**
- Easily understandable results predict the components’ ‘as molded’ shape.

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**NOISE PREDICTION (FLOW)**
- Flow simulation can now analyze time-dependent pressure data to predict noise values.

**Benefits**
- Calculate and mitigate operational noise.

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