WHAT’S NEW IN SOLIDWORKS 2020—ECAD

SOLIDWORKS Electrical

1. User Rights Customization
   - Customize user access to areas such as libraries, projects, project data, and drawing controls for members of your workgroup.
   - **Benefits**
     - Ensure data security and output consistency with the ability to customize user access.

2. Expanded Documentation For Schematic and Control Panel Design
   - Create Leaders and Balloon callouts on drawings along with row numbers in Reports.
   - **Benefits**
     - Speed up the completion of your design and documentation with improved documentation tools.

3. Electrical Splice Creation Without Components
   - Create welded or soldered connections in the schematic and have these design details propagate to the 3D representation without a splice entry in the bill of materials.
   - **Benefits**
     - Create splice connections with or without an actual splice component to meet your design intent.

4. Calculation of Mass Properties For Wires, Cables, and Electrical Harnesses
   - Determine the mass properties of your wire, cable, and electrical harness designs inside the 3D model of your overall machine, product, or vehicle.
   - **Benefits**
     - Gain a more realistic understanding of your product by determining the mass properties of electrical equipment and wiring.

5. Incremental Design Update
   - Have only changes made in the schematic, not the entire design, propagated to the 3D model and flattened drawing representation.
   - **Benefits**
     - Improve the speed of downstream documentation updates by propagating only design changes.

CAD microsolutions
GTA OFFICE
30 International Blvd, Unit #1, Etobicoke, ON, M9W 1R2
TRI-CITIES OFFICE
225 Pinebush Rd, Suite 102, Cambridge, ON, N1T 1B9
MONTREAL OFFICE
6500 Trans Canada Hwy, Suite 400, Pointe Claire, Quebec, H9R 0H5

WEBSITE www.cadmicro.com
EMAIL US info@cadmicro.com
GTA 416-213-0533
TRI-CITIES 519-642-8222
6 Improved Performance of Routing Wires in 3D
- Benefit from the vastly improved speed of routing wires in 3D, tested on customer test examples with thousands of components.

Benefits
- Experiment more quickly with electrical route path choices inside complex equipment to refine the overall product design.

SOLIDWORKS PCB

7 PCB/Electronics Design and Data Management
- Create electronics projects and PCB design files.
- Design file check-in and check-out, and automated versioning of all electronics files.
- Create PDM data cards and “where used” for design files.
- Use a centralized PDM Vault storage of PCB design files.
- Set up workflow processes with notifications at specific milestones.
- Establish a formal release process with approvals and sign-offs.

Benefits
- Better manage design data and collaborate on electronics product development with both electronics and mechanical projects and design data aligned under one data management solution.

SOLIDWORKS PCB-PDM Connector

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- Integrate SOLIDWORKS PCB and SOLIDWORKS PDM Professional with PCB-PDM Connector.
- Synchronize PCB and PDM variables and parameters.
- Create PDM-based bills of materials.
- Integrate project and documentation check-in and check-out and archiving.
- Generate virtual data cards and “where used” for electronics parts.

Benefits
- Manage PCB projects, electronics design data, properties, parameters, and documentation more effectively by standardizing electronic product data and workflows for maximum productivity and product quality.

9 Rigid-Flex PCB Design
- Design rigid-flex PCBs with support for rigid-flex stack-up definitions and board-planning mode to define regions, splits, folds, 3D-folded visualization, and DRC verification.

Benefits
- Design PCB circuitry to fit geometrically complex enclosures, saving space, improving reliability, and addressing challenging mounting requirements. Rigid-flex designs can also help reduce PCB assembly time and costs.

10 Rigid-Flex ECAD-MCAD Collaboration
- Collaborate on rigid-flex designs between SOLIDWORKS PCB and SOLIDWORKS 3D CAD with the enhanced SOLIDWORKS PCB Connector.

Benefits
- Eliminate manual ECAD-MCAD mock-ups with seamless, intelligent ECAD-MCAD collaboration, ensuring rigid-flex designs accurately fit and fold within the enclosure.

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