

## DIGITAL INDUSTRIES SOFTWARE

# Solid Edge PCB Collaboration

Breaking down communication barriers in PCB design

### Benefits

- Enables the development of better electromechanical products
- Improves multi-disciplinary design
- Reduces costly design revisions and time to market

### Features

- Efficiently transmits data bi-directionally between domains using IDX data format
- Imports copper data from ECAD to MCAD environments
- Easily locates PCB components
- Honors individual domain constraints
- Open, interoperable environment
- 3D starter data and component libraries

### Summary

Integration between electrical computer-aided design (ECAD) and mechanical computer-aided design (MCAD) domains plays a major role in designing multi-disciplinary products. Effective communication between domains not only reduces development time and the number of change iterations, it also drives a homogeneous and concurrent design.

Siemens' Solid Edge® PCB Collaboration efficiently communicates design intent between ECAD and MCAD systems by allowing engineers to stay in their individual environments, with an intuitive 3D visualization of both the printed circuit board (PCB) and its enclosure. Fast and effective communication between domains enables companies to get products to market faster while keeping development costs low. The software displays a complete history of all exchanges that have taken place during collaboration and leverages an ecosystem of reference designs and libraries.

An open, interoperable environment, Solid Edge PCB Collaboration can consume 3D models from industry-leading PCB environments that provide files in an incremental design exchange (IDX) file format. When used with Siemens PADS

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Professional or Xpedition environments, the tool provides automatic alignment and mapping of 3D models.

### Realistic 3D component models in board assembly

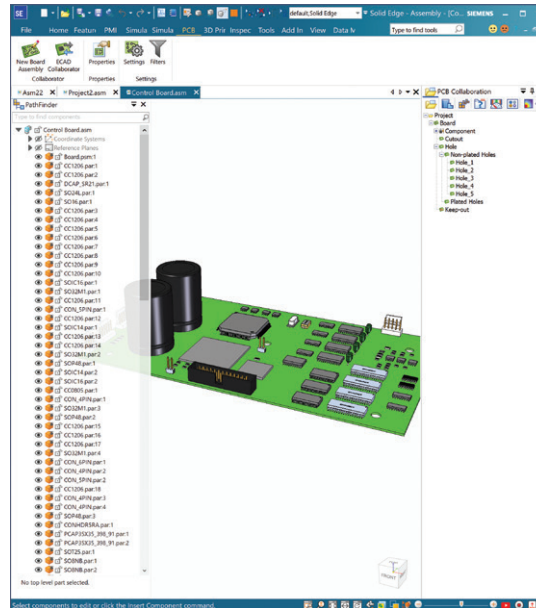
A photo-realistic view of PCB components aids in accurate electromechanical product design. Solid Edge PCB Collaboration allows users to browse and import exact models, providing a true 3D view of the design that can be rotated and visually inspected for interferences between ECAD and MCAD design aspects. The software supports replacing the 2.5D represented components with standard/supported 3D models available in the included library. If the 3D model is absent, default 2.5D representation will be created for that component.

Solid Edge PCB Collaboration includes a pathfinder that sorts PCB components based on their type (for example, cutouts, keep-outs, plated or non-plated mounting holes, etc.) to help users while working on an assembly. Users can quickly view the properties with a simple click rather than searching for the part in the graphical environment.

Copper, an important component in PCB design, makes electrical connections between the PCB and other parts of the device possible. Knowing information about a design's copper layout assists in better mechanical design and representation. Solid Edge PCB Collaboration enables the import of copper data, in the form of sketches, from the electrical domain.

### Collaborate from within one's own environment

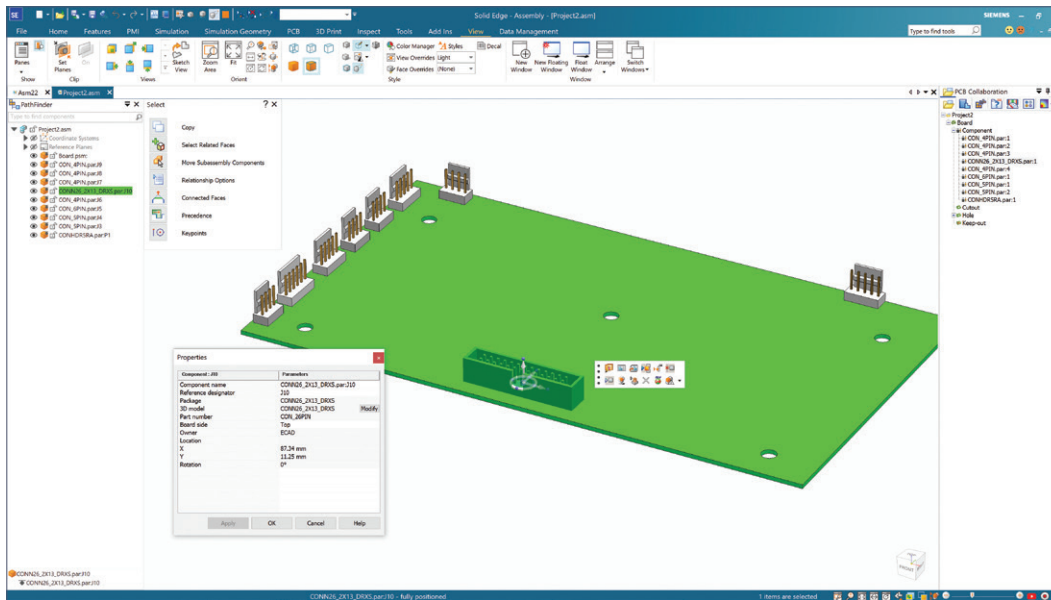
With Solid Edge PCB Collaboration, mechanical engineers stay in their comfort zone, working within their own toolset to communicate changes to the electrical engineer. Neither must learn the tools of the other's discipline. Either discipline can start the design process,



with MCAD users able to initiate PCB design from within Solid Edge. Design aspects are sent between ECAD and MCAD until clearances and electromechanical interferences are checked and all modifications are made. This process continues until all parties are satisfied with the design.

Easy-to-use controls guide the user through the design change proposal, rejection, acceptance, agreement and design synchronization steps. Users can include notes or comments, on data elements or for the collaboration data file itself, to provide feedback or other relevant information to each other. Once both sides agree, required changes are updated automatically in the database for synchronization. Collaboration is possible in real-time or batch mode via a shared directory or Dropbox location for collaboration across different time zones.

Solid Edge PCB Collaboration uses IDX data files to transmit data between ECAD and MCAD environments. The software's dialogue offers a tree structure view of the IDX file,



allowing users to select data for import and export on a need-to-know basis. Older formats, such as the intermediate data format (IDF), overload communication by transferring more design data than is necessary. By transmitting only relevant data for change proposals, intellectual property is preserved. This is particularly important when the design is spread across different companies. Solid Edge PCB Collaboration supports IDX 2.0 and 3.0.

### Extending value

Solid Edge is a portfolio of affordable, easy to deploy, maintain and use software tools that advance all aspects of the product develop-

ment process: mechanical and electrical design, simulation, manufacturing, technical documentation, data management and cloud-based collaboration.

### Minimum system requirements

- Windows 10 Enterprise or Professional (64-bit only) version 1809 or later
- 16 GB RAM for commercial uses and 8 GB RAM for academic users
- 65K colors
- Screen Resolution: 1920 x 1080
- 8.5 GB of disk space required for installation

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