

**XPLM**  
Expert Integration

**CONNECT  
FLEXIBILITY AND  
DATA QUALITY.**

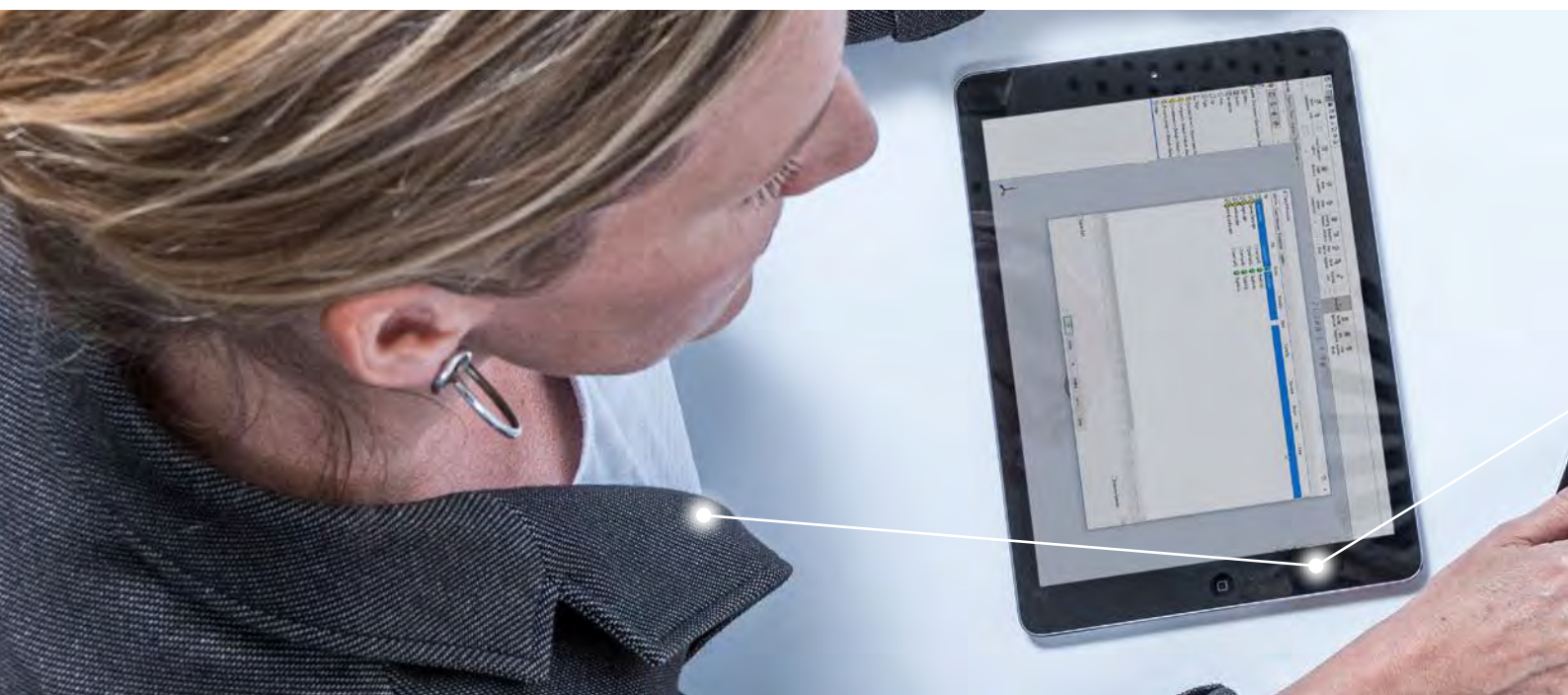
With the widest ECAD integration  
portfolio for Siemens Teamcenter.



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Integrate your ECAD design development process – with the centralized management of native design data and the generation of BOMs, fabrication and assembly data



## THE CHALLENGES

The needs for consistent information flows and processes, and to be able to launch innovative and high-quality products, are just some of the challenges companies face when trying to manage the efficient collaboration of design teams across various locations. With the new challenges created for businesses by 'digital transformation' and the prevalence of Industry 4.0 and IoT, firms are increasingly searching for a solution to facilitate cross-disciplinary cooperation in their production of complex products.



## THE SOLUTION

Developed by XPLM, integrate2 enables an integrated approach to connect your ECAD design workflow to the complete product design ecosystem. This allows cross-discipline collaboration across design teams and combines mechanical, electrical, embedded software, and electronic design data on a single platform.

Using integrate2 enables ECAD design data to be managed more consistently, improving efficiency, agility and process reliability and gives engineers a complete view of their product data. Designers can now access, publish and synchronize information without leaving their familiar ECAD design environment. The integrated approach moreover enhances the ability to hit release dates, cost targets and product quality and feature set goals.

## KEY BENEFITS

- Save time and eliminate errors through consistency in automated data exchange processes and data model
- Avoid redundancy by using a single integrated platform
- Achieve holistic traceability of your product development processes by incorporating ECAD design data into the business processes
- Make design information accessible to users outside the ECAD world
- Enhance collaboration through simplified multi-site data exchange
- Prevent duplicate data entry in ECAD library and PLM
- Adapt the integration functionalities to your operational processes. Shorten your search times to access design data more quickly
- Avoid manual processes



**INTEGRATE<sup>2</sup>**  
**THE EFFICIENT**  
**INTEGRATION**  
**BETWEEN SIEMENS**  
**TEAMCENTER**  
**AND ECAD**

## MAIN FEATURES

integrate2 manages native ECAD design data and the generated manufacturing data inside PLM by using standardized functionalities:

- Starting new projects with centralized managed templates
- Complete release of projects including automatic creation of fabrication and documentation outputs into PLM
- Automatic population of parameters in drawing frames
- Generation of Bill of Materials including design variants
- Comparison of Bill of Materials during save of the design project
- Check-In and Check-Out capabilities
- Bi-directional synchronization of library content
- Extensive search capabilities
- Easy linking of data to other PLM objects
- Solid audit trail via status log

## AVAILABLE INTEGRATIONS

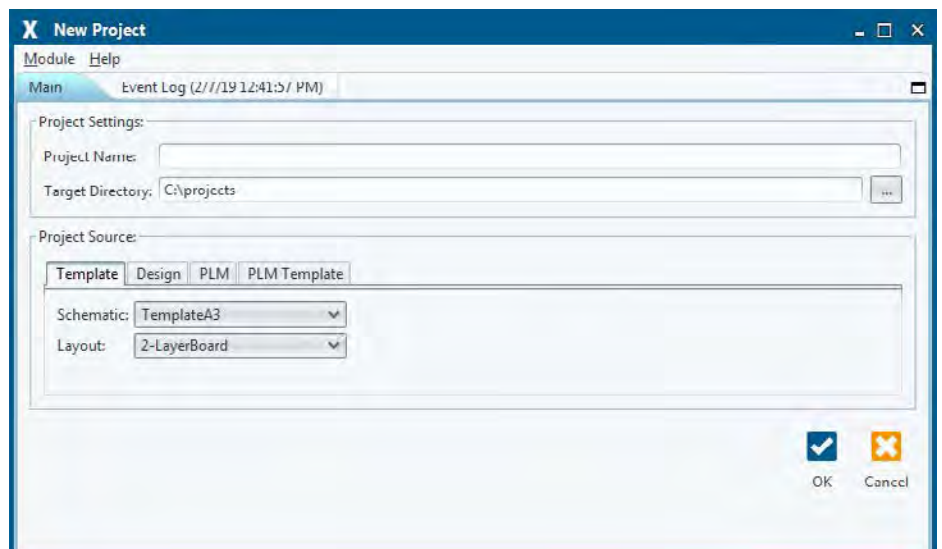
ECAD ELECTRIC	ECAD ELECTRONIC	ECAD EDM
AutoCAD Electrical	Altium Designer	Altium Concord Pro
ELCAD	Cadence Allegro	Altium NEXUS*
Engineering Base	Cadence OrCAD	Cadence Allegro EDM
EPLAN	Mentor PADS	Cadence OrCAD EDM
Mentor Capital	Mentor Xpedition	Mentor EDM
SOLIDWORKS Electrical*	Pulsonix	Zuken EDM*
Zuken E3 Series*	Zuken CR 5000/8000*	

\*on request

## NEW PROJECT

This module is used to create new designs based on templates or existing designs

- Create new designs based on schematic and PCB templates or reuse existing designs stored in the file system or in PLM.
- Automatically update pre-defined attributes in the new design.
- The integration creates a local copy of the design for editing.



### SAVE TO PLM

This module is used to manage ECAD engineering information in PLM.

#### FEATURES: INNOVATION

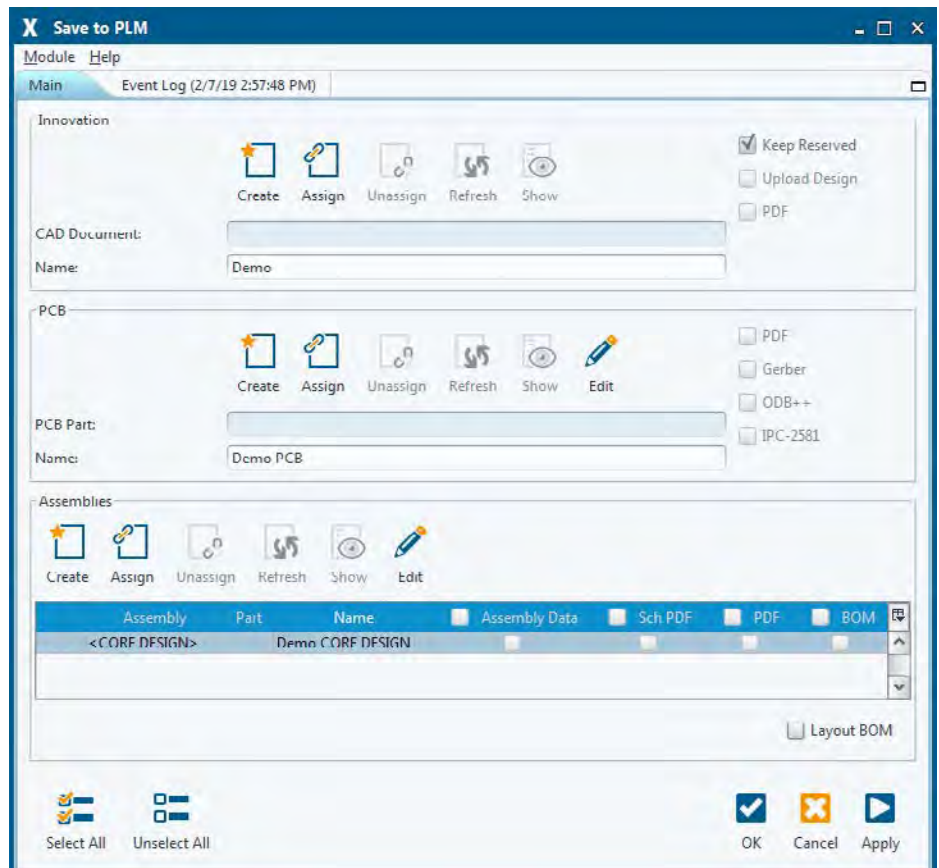
- Automatically creates the main object in PLM and associates it to the ECAD design.

#### FEATURES: PCB

- Automatically creates related output objects in PLM and links them to the bare board object.

#### FEATURES: PCB ASSEMBLIES

- Automatically creates related output objects in PLM and links them to the assembly variant objects.



### BOM COMPARISON DIALOG

This module is used for the management of the Bill of Materials

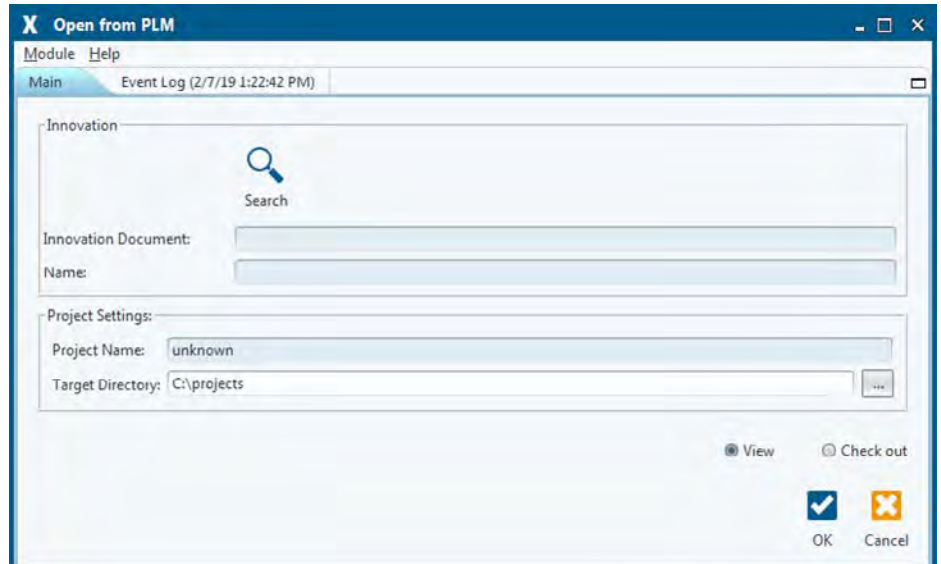
- The integration automatically reads the BOM from ECAD and prepares it for uploading to PLM.
- Compares the BOM in both systems and shows differences in the BOM Comparison dialog.
- Automatically calculates quantities for each BOM item in PLM.



### OPEN FROM PLM

This module is used for searching and opening designs from PLM

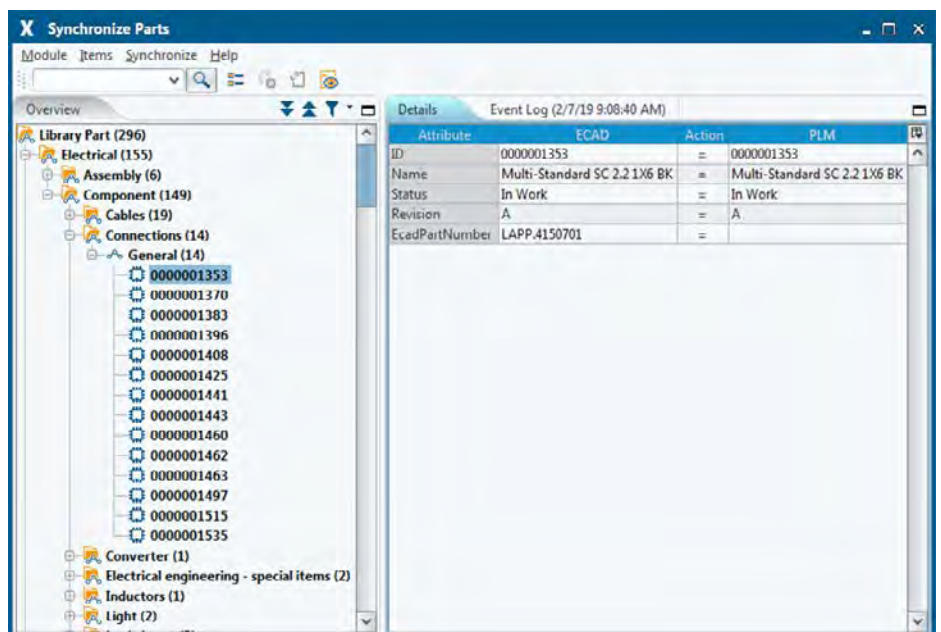
- Search for an existing design in PLM.
- Create a local copy of the design.
- Open the design in read-only mode or for editing in ECAD.



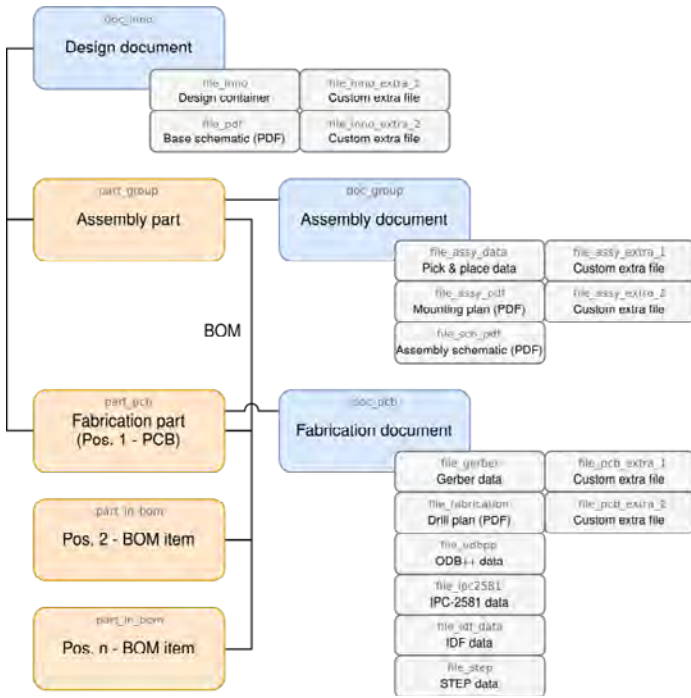
### SYNCHRONIZE PARTS

This module is used to synchronize components, articles and attributes between ECAD and PLM.

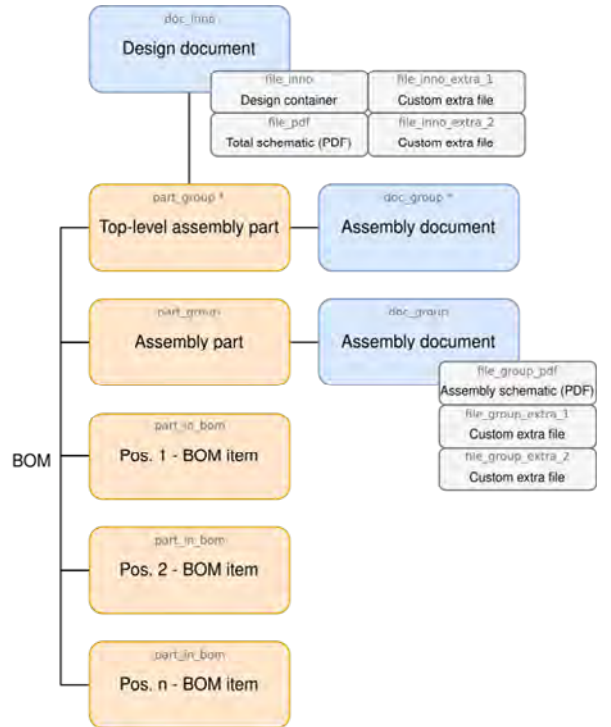
- Search and select components by class or part number.
- Load missing components in PLM resulting from the last BOM upload.
- Automatically create new articles for missing components in PLM.
- Manually associate unlinked components with existing articles in PLM.
- The integration automatically updates attribute information bi-directionally between the ECAD library database and PLM.



**DATA MODEL ELECTRONIC-CAD**



**DATA MODEL ELECTRIC-CAD**



**LEGEND**

- Orange: PLM articles
- Blue: PLM documents
- Grey: PLM attachments



# GLOSSARY

ARTICLE	Product in PLM that can either be built or purchased.	INNOVATION DOCUMENT	Data model object in PLM that manages the native design.
ASSEMBLY DATA	Data model object in PLM with the assembly data for the PCB.	INNOVATION PART	Data model object in PLM that manages the entire project.
ASSEMBLY DOCUMENT	Data model object in PLM that manages the assembly data of the PCB.	INNOVATION PDF	Data model object in PLM with the master schematic as a PDF file.
ASSEMBLY PART	Data model object in PLM with the BOM items of the assembly variant.	PCB	Printed Circuit Board – bare (unassembled) board with the electrical connections of electronic components.
ASSEMBLY PDF	Data model object in PLM with the variant-specific assembly drawing as a PDF file. Certain authoring systems including the schematic in this file.	PCB DOCUMENT	Data model object in PLM that manages the fabrication information of the bare (unassembled) board.
ATTRIBUTES	Properties for objects in the design and the data model.	PCB PART	Data model object in PLM that represents the bare (unassembled) board.
BOM	Bill Of Material – list of components/articles.	PCB PDF	Data model object in PLM with the fabrication drawing(s) for the PCB as a PDF file.
BOM HEADER	Unique ID in the project to group components according to structure indicators.	PROJECT	Native design files in ECAD containing schematics, PCB layout and other related data.
BOM ITEM	Position in the BOM with unique ID, quantity and other attributes.	SCHEMATIC	Functional diagram with electrical and/or electronic components and the connections.
COMPONENT	Component in the ECAD library database.	SCHEMATIC DOCUMENT	Data model object in PLM that manages the schematic.
DATA MODEL	Defines objects and the relationship between these objects for a certain design in PLM.	SCHEMATIC PDF	Data model object in PLM with the variant-specific schematic as a PDF file. Certain authoring systems including the assembly drawing in this file.
ECAD	Electric/Electronic Computer Aided Design – software-based development used in electrical engineering and electronic design.		
FABRICATION DATA	Data model object in PLM with the fabrication data (Gerber- and drill files, etc.) for the bare (unassembled) board.		
INNOVATION CONTAINER	Data model object in PLM with the native design files.		



**HEADQUARTERS**

XPLM Solution GmbH  
Altmarkt-Galerie Dresden, Altmarkt 25  
01067 Dresden, Germany  
Office: +49 351 82658-0

Mail: [marketing@xplm.com](mailto:marketing@xplm.com)

**OFFICE USA**

XPLM Solution Inc.  
1900 West Park Drive, Suite 280D  
Westborough, MA 01581  
Office: +1 508 753-7500