XPLM
Expert Integration

CONNECT FLE**X**IBILITY AND DATA QUALITY.
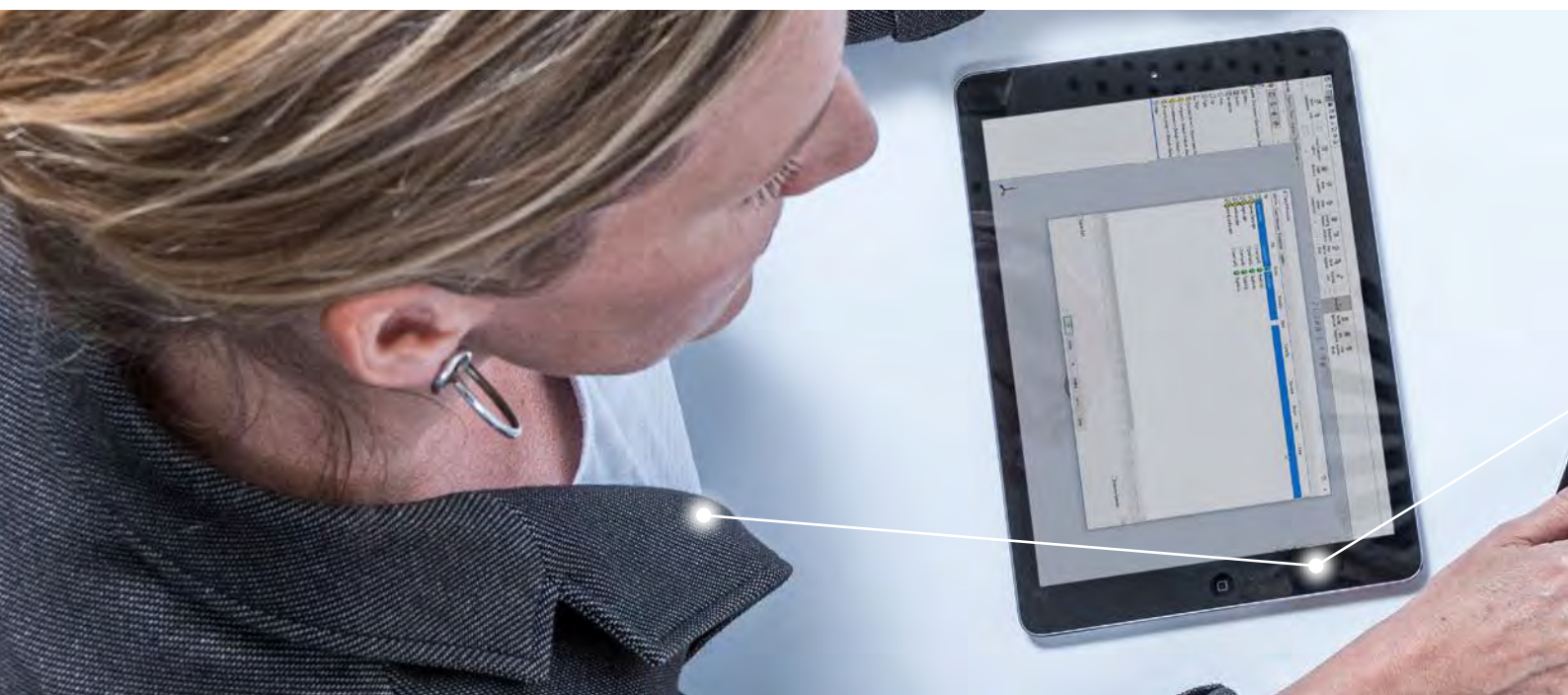
With the widest ECAD integration portfolio for PTC Windchill.

Content

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

PLM

XPLM
integrate2

ECAD

Functionalities of integrate2

- Bidirectional exchange of design data
- Management of version build relations
- Integration into materials, documents and
  change management functionality in PLM
- Storage of binary and generic files in
  distributed content
- BOM comparison
- Bidirectional synchronization of component 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.
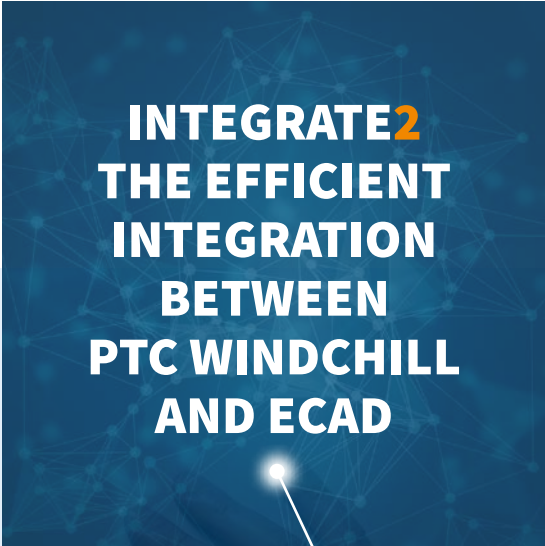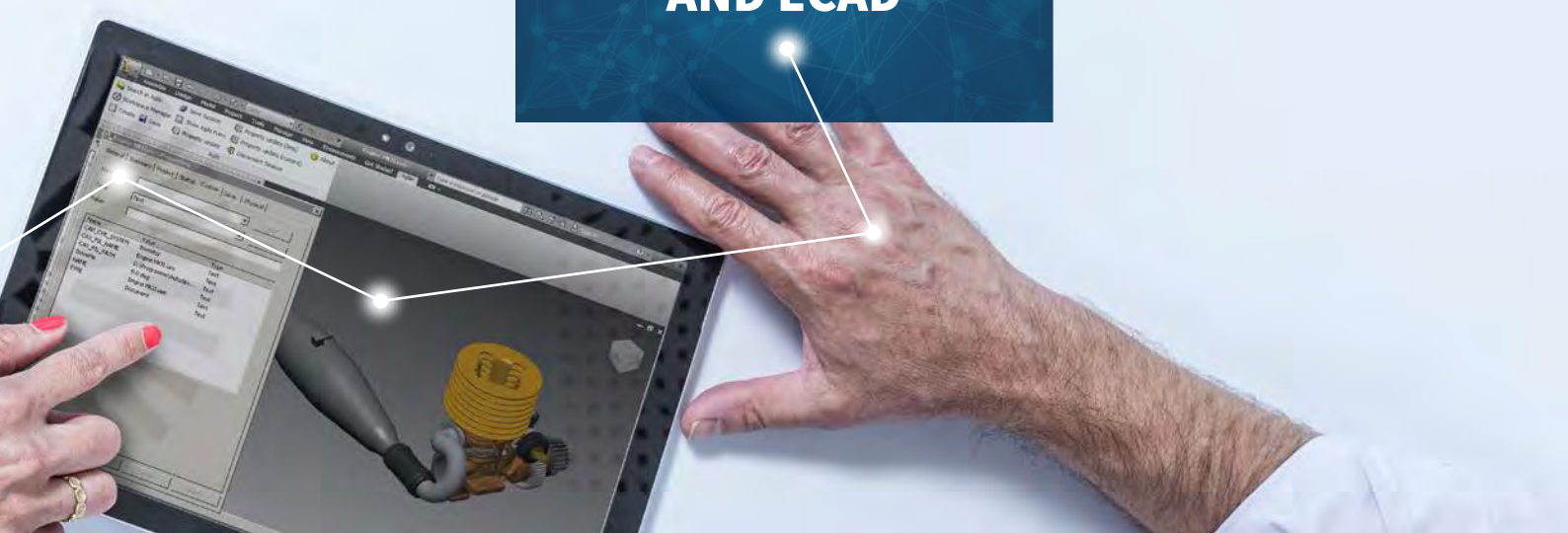
THE SOLUTION

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

**INTEGRATE2
THE EFFICIENT
INTEGRATION
BETWEEN
PTC WINDCHILL
AND ECAD**

MAIN FEATURES

integrate2 manages native ECAD design data and the generated manufacturing data inside PLM by using standardized functionalities:
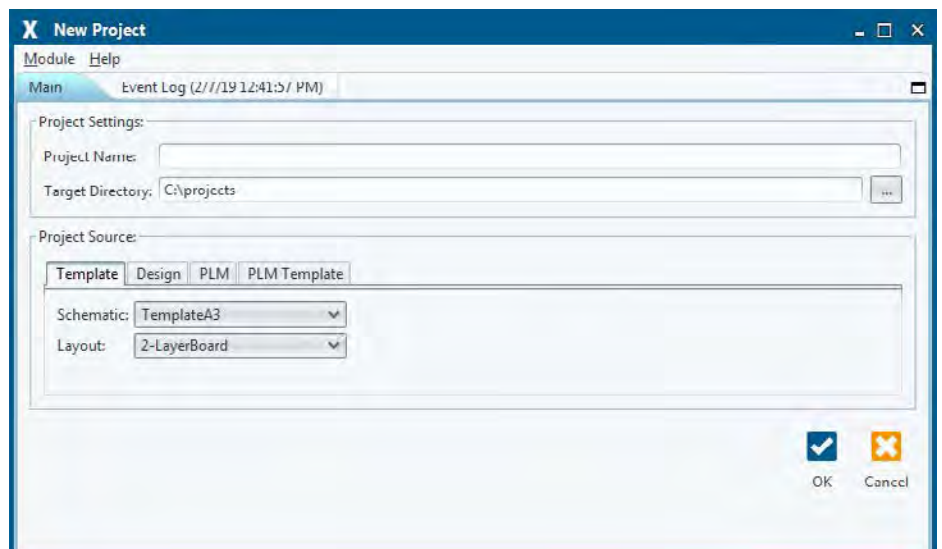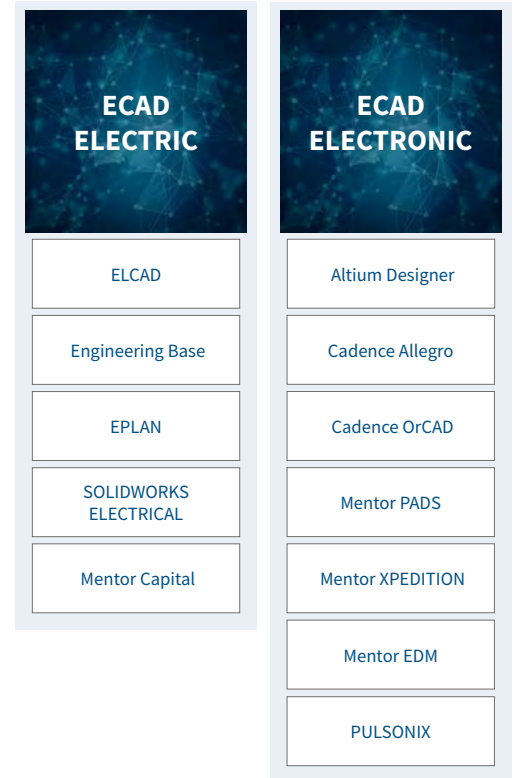
- Starting new projects with centralized managed templates
- Complete release of projects including automatic creation of fabrication and documentation outputs into PLM
- Automatic population of parameters in drawing frames
- Generation of Bill of Materials including design variants
- Comparison of Bill 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

- ELCAD
- Engineering Base
- EPLAN
- SOLIDWORKS ELECTRICAL
- Mentor Capital

ECAD ELECTRONIC

- Altium Designer
- Cadence Allegro
- Cadence OrCAD
- Mentor PADS
- Mentor XPEDITION
- Mentor EDM
- PULSONIX

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 tof the design for editing.

SAVE TO PLM

This module is used to manage ECAD engineering information in PLM.
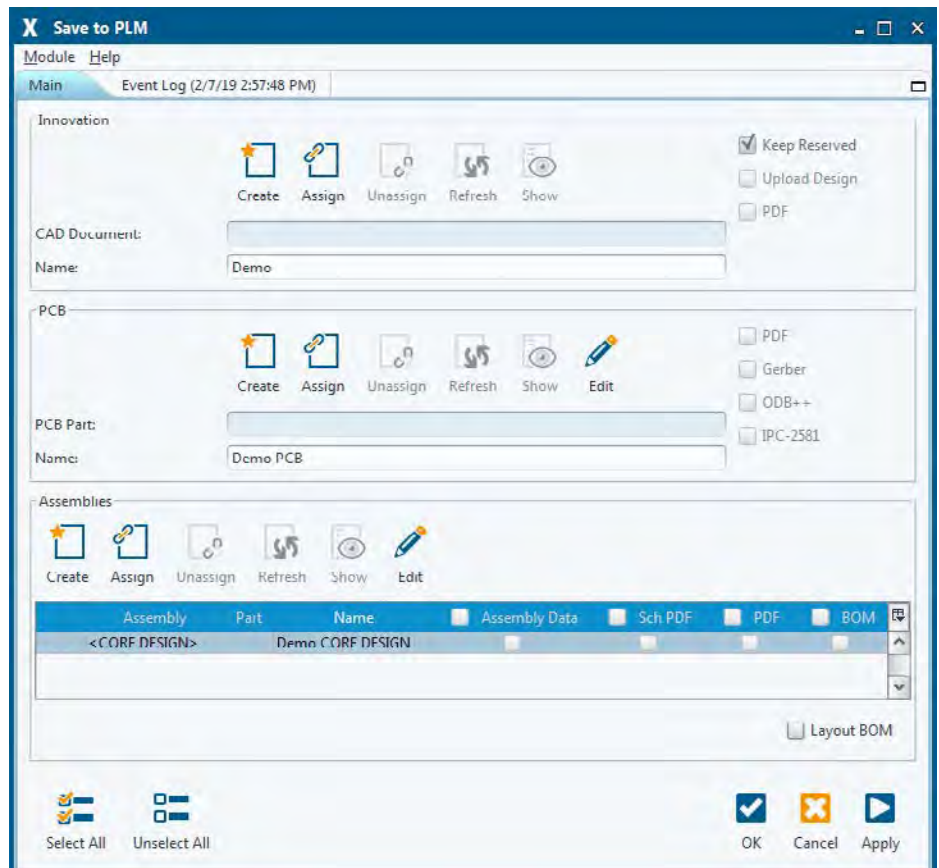
FEATURES: INNOVATION
- Automatically creates the main object in PLM and associates it to the ECAD design.

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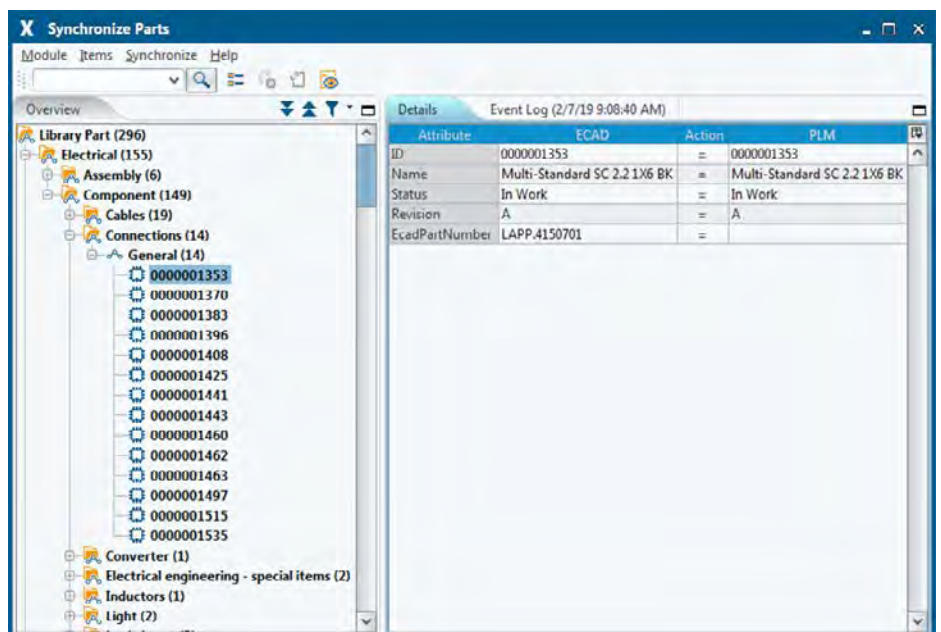
- Search for an existing design in PLM.
- Create a local copy of the design.
- Open the design in read-only mode or for editing in ECAD.
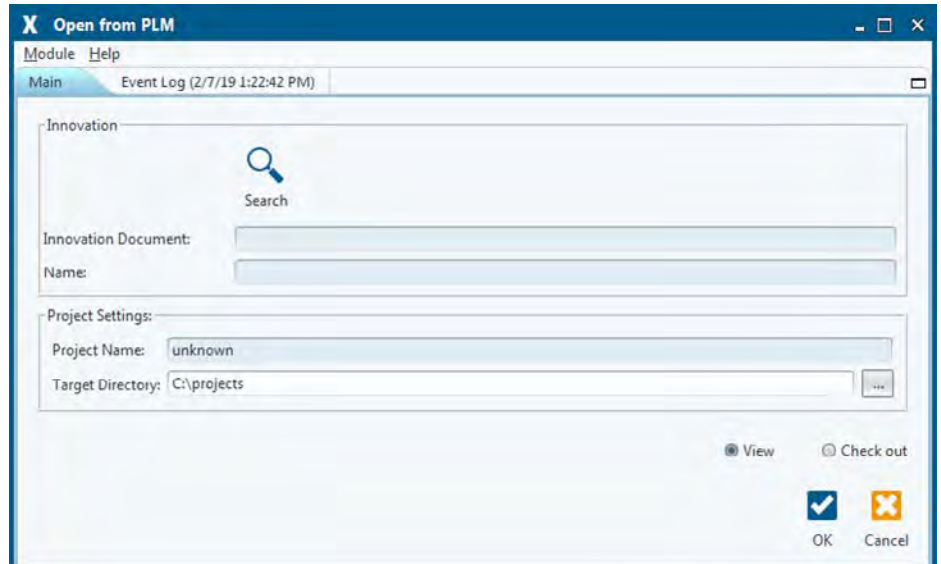
SYNCHRONIZE PARTS

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

doc_inno
Innovation document

file_inno
Innovation container

file_pdf
Innovation PDF
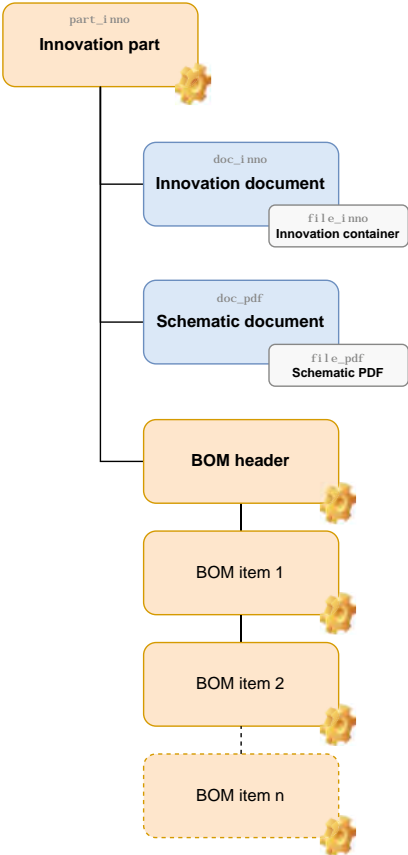
part_assy
Assembly part

doc_group
Assembly document

file_assy_data
Assembly data

file_assy_pdf
Assembly PDF

BOM

part_pcb
PCB part

doc_pcb
PCB document

file_fabrication
PCB PDF

file_gerber
Fabrication data

file_odbpp
ODB++ data

file_ipc2581
IPC-2581 data

BOM item 2

BOM item 3

BOM item n

DATA MODEL ELECTRIC-CAD

part_inno
Innovation part

doc_inno
Innovation document

file_inno
Innovation container

doc_pdf
Schematic document

file_pdf
Schematic PDF

BOM header

BOM item 1

BOM item 2

BOM item n

LEGEND

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

GLOSSARY

ARTICLE — Product in PLM that can either be built or purchased.

ASSEMBLY DATA — Data model object in PLM with the assembly data for the PCB.

ASSEMBLY DOCUMENT — Data model object in PLM that manages the assembly data of the PCB.

ASSEMBLY PART — Data model object in PLM with the BOM items of the assembly variant.

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.

ATTRIBUTES — Properties for objects in the design and the data model.

BOM — Bill Of Material – list of components/articles.

BOM HEADER — Unique ID in the project to group components according to structure indicators.

BOM ITEM — Position in the BOM with unique ID, quantity and other attributes.

COMPONENT — Component in the ECAD library database.

DATA MODEL — Defines objects and the relationship between these objects for a certain design in PLM.

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.

INNOVATION DOCUMENT — Data model object in PLM that manages the native design.

INNOVATION PART — Data model object in PLM that manages the entire project.

INNOVATION PDF — Data model object in PLM with the master schematic as a PDF file.

PCB — Printed Circuit Board – bare (unassembled) board with the electrical connections of electronic components.

PCB DOCUMENT — Data model object in PLM that manages the fabrication information of the bare (unassembled) board.

PCB PART — Data model object in PLM that represents the bare (unassembled) board.

PCB PDF — Data model object in PLM with the fabrication drawing(s) for the PCB as a PDF file.

PROJECT — Native design files in ECAD containing schematics, PCB layout and other related data.

SCHEMATIC — Functional diagram with electrical and/or electronic components and the connections.

SCHEMATIC DOCUMENT — Data model object in PLM that manages the schematic.

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.

XPLM
Expert Integration

HEADQUARTERS

XPLM Solution GmbH

Altmarkt-Galerie Dresden, Altmarkt 25

01067 Dresden, Germany

Office: +49 351 82658-0

OFFICE USA

XPLM Solution Inc.

1900 West Park Drive, Suite 280D

Westborough, MA 01581 USA

Office: +1 508 753-7500

Mail: marketing@xplm.com