Performance Description

Contents: EPLAN Harness proD 2022
Status: 02/2022

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Introduction

EPLAN offers Engineering software and service in the fields of electrical engineering, automation and mechatronics. The company develops one of the world's leading software solutions for engineering, plant engineering and enclosure design. EPLAN is also the ideal partner for simplifying challenging engineering processes.

Standardized and individual ERP and PLM/PDM interfaces ensure consistent data along the entire value chain. Working with EPLAN means unrestricted communication across all engineering disciplines. Whether small or large companies: Customers can use their expertise more efficiently. EPLAN aims to keep growing with its customers and partners and furthers integration and automation in engineering. "Efficient Engineering" is our motto.

EPLAN was founded in 1984 and is part of the Friedhelm Loh Group.

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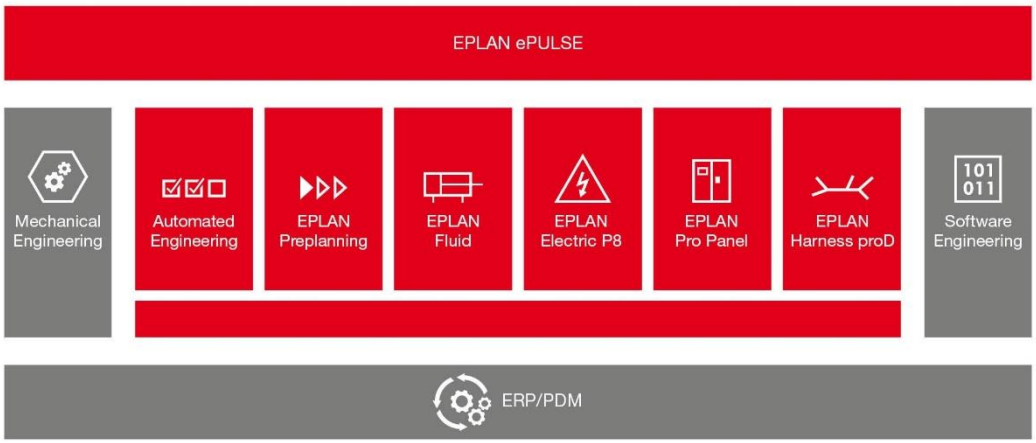
All from one provider: EPLAN Solutions



EPLAN supports you with establishing your engineering across multiple disciplines. The basis is formed by the EPLAN platform that interconnects our software solutions. For you this means a clear increase in efficiency when it comes to working on your EPLAN project. Since your digital data flow seamlessly from solution to solution and are enriched further in every process step. The Cloud products of EPLAN offer added values for collaboration in teams - in particular for tasks across all your locations.

Together the EPLAN Platform and the supplementary Cloud applications form EPLAN Solutions - or, in other words: the key for your future-oriented engineering.

EPLAN offers a comprehensive framework for your daily work. This way interfaces allow the bidirectional exchange with ERP and PDM systems. With the connection to mechatronic processes you expand your view to a mechatronical engineering perspective. With neutral interfaces you can transfer the EPLAN project data into other software environments and continue working on them.

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Extensions and modules for all cases

No matter to what extent you are already working with EPLAN solutions in your company and which requirements have to be fulfilled in the future: Extensions in all directions can be implemented easily thanks to the add-on concept of EPLAN - flexibly and individually for your tasks.

To this purpose EPLAN offers comprehensive extension options through extension modules and in the form of service packages - the "Elements".

You can find a comprehensive overview of the current extension modules in the licensing overview. Should you have any further questions on this topic, please do not hesitate to ask your EPLAN contact person.

EPLAN Electric P8

With EPLAN Electric P8 you configure your electrical design for machines and plants in an engineering system consistently, coherently and quickly. The software supports diverse engineering methods: from manual creation to standardized and template-based work. EPLAN Electric P8 automatically creates detailed reports for you as an integral part of the project documentation - if desired continuously or bundled after project completion. This way you supply the downstream process steps with all required information from the engineering process.

EPLAN Fluid

EPLAN Fluid is your engineering tool, especially for the configuration and automated documentation of circuits of fluid-power plants in the fields of hydraulics, pneumatics, cooling and lubrication.

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EPLAN Preplanning

EPLAN Preplanning allows you to already acquire engineering data in the pre-planning phase. This, for example, includes the actuators and sensors of a plant, machine or a building. You can import data both from external tabular sources as well as plant and machine overviews and furthermore graphically acquire process and instrumentation diagrams. You can also access data that have been collected and enriched in EPLAN Preplanning for downstream planning phases in the engineering.

EPLAN Pro Panel

With EPLAN Pro Panel Professional you conceive and design control system enclosures, switchgear and power distribution systems for the energy supply in 3D. This way you can solve diverse engineering tasks in one software: from the electrical schematic creation through the planning of the mounting layout in 3D to the virtual routing of connections. A variety of data and information for the manufacturing are provided in an automated way - from the component labeling to the support of manual wiring processes.

EPLAN Smart Wiring

EPLAN Smart Wiring is your virtual assistant for manual wiring in the enclosure production. From the connecting point to the exact routing track, the software provides you - as the wirer - with all the required information in digital form - if necessary, also in 3D. You can note the status of the wiring with the traffic light principle. If you need to reassure yourself, you can call up the electrical schematic and counter-check it - on the basis of each individual connection. The provision of the project data on a central server makes it possible to manufacture many identical enclosures in parallel or work together with several wirers.

EPLAN Harness proD

Use EPLAN Harness proD for the efficient design and documentation of cables and wire harnesses. With the software you digitize the typical work processes in cable and wire harness design: From the importing of the connection information as well as the 3D panel layout from the EPLAN Platform through the intuitive routing up to the creation of manufacturing documentation. The software is open for MCAD systems and can in this way be seamlessly integrated into existing system landscapes.

EPLAN Cogineer

With EPLAN Cogineer you gain the full potential from your engineering in a short time as well as increase the quality of your electrical and fluid-power documentation. You use the switching templates you have already created to structure a macro library and with EPLAN Cogineer realize the automatic schematic creation at the push of a button. Profit from the innovative methods with added value in engineering without long implementation - in all industries and in companies of all sizes.

EPLAN Engineering Configuration (EEC)

With EPLAN Engineering Configuration (EEC) you illustrate your product portfolio in a modular system with interdisciplinary function units. On this stable basis, EEC becomes your tool for the design and application of configuration user interfaces as well as the automated creation of documentations. The interdisciplinary working method integrates sales, order processing, mechanical engineering, electrical engineering and control technology as well as production and documentation.

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EPLAN ERP/PDM Integration Suite

Continuous data flows ensure transparency in the product development process. Through the EPLAN Integration Suite, EPLAN manages the integration into existing ERP, PDM and PLM system landscapes. You can optimize your work processes from the schematic through to the master data. The quick and individual provision of the data takes place in bidirectional exchange with the systems, without you having to leave the work environment within the EPLAN platform.

EPLAN eVIEW Free

EPLAN eVIEW Free lets you implement engineering review processes digitally. This free software allows structured collaboration with co-workers, customers and service providers. It enables you to view and comment on changes to a project through redlining workflows by using a browser and irrespective of your location.

EPLAN eBUILD Free

New methodology for your engineering process: With EPLAN eBUILD Free you have the possibility to compile schematics from template libraries with a few clicks. Registered users have this application automatically available as a free service. eBUILD Free offers you predefined libraries and a configurator that allows you to create parts of schematic projects in EPLAN practically at the click of a button.

EPLAN eBUILD

With EPLAN eBUILD you create your own template libraries which can be re-used by employees and colleagues within the EPLAN Cloud environment. This way you can automatically create schematics in EPLAN across the company. eBUILD is composed of two functional areas which are available to you completely in the full version: In Designer experienced users create their own template libraries on the basis of the EPLAN macro technology. In Project Builder they can then be used repeatedly at any time to compile elements of schematics which are frequently used in day-to-day work with a few clicks.

EPLAN Data Portal

With the EPLAN Data Portal you have direct online access to high-quality product catalogs from a continuously growing pool of notable component manufacturers. All the solutions anchored in the EPLAN platform access this Web service equally. Simple transfer of the offered components into the EPLAN documentation reduces the required configuration work and increases the quality of the machine and plant documentation. With its Data Standard based on ECLASS Advanced, EPLAN Data Portal provides a systematic framework for device attributes.

EPLAN eMANAGE Free

EPLAN eMANAGE Free is your Cloud application for collaborations across all your projects and locations with colleagues, partners, suppliers and clients. eMANAGE enables you to share EPLAN projects with selected project partners across all teams and across the company in a protected Cloud environment. The solution enables simple uploading of projects from the EPLAN Platform or via web browser.

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EPLAN eMANAGE

Beyond the functions of the free version, the full version of EPLAN eMANAGE offers you practical, functional extensions as well as additional storage for your data. Share project data via eMANAGE at an extended scope - with familiar access control and the same ease of use. Make your master data available with eMANAGE from the EPLAN Platform 2022 and thus make their usage easier for other users. With a click you make current EPLAN projects available in earlier Platform versions as well. This way you allow project partners who do not yet use the current EPLAN version access to the project data you provided in the Cloud.

Note:

The properties and functionalities specified in this performance description are based on the maximum scope of performance of the product including all extension modules, Elements and add-ons. Extension modules, Elements and add-ons are available optionally and separately and as a rule cost an additional fee. For further details of the available product variants please refer to the "Licensing Overview" chapter.

EPLAN Harness proD

Use EPLAN Harness proD for the efficient design and documentation of cables and wire harnesses in 3D and 2D. The documentation for order processing, materials planning and manufacturing derives automatically from connection lengths and bundle diameters.

EPLAN Harness proD digitizes the typical work processes in cable and wire harness design – from the importing of the wiring information and panel layout from the EPLAN Platform through the automated routing and interactive routing of connections up to the creation of manufacturing documentation including nailboard drawings and cable drawings. EPLAN Harness proD combines the data of mechanical and electrical design into one system – thus merging optimally into the existing work processes.

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User Interface

Look & Feel

The system provides an intuitive user interface. Windows-compatible operation with functionalities such as Tooltips, menu bars, and online help system allow beginners and occasional users to get to grips quickly.
The user interface of EPLAN Harness proD offers two display schemes: light and dark.

Supported by innovative handling concepts the user can focus on their actual work – engineering. The user interface customized to the task at hand allows efficient and rapid project planning.

Workflow & Integration

The system can be configured by means of settings to meet the needs of the user, companies, and project. The result: The workflow is accelerated and the required work result achieved efficiently.

You also have access to an extensive online didactic help system which provides efficient work support.

Diverse data formats as well as proprietary and native CAx data interfaces are available as interfaces for exchange with other CAx systems.

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Method

EPLAN Harness proD reflects the specific working method and methodology of an engineer in the context of wire harness design – thus ensuring the highest possible effectiveness within the product creation process.

This should be differentiated as follows:

- Design of cables and wire harnesses in a 3D working environment – with and without the support of externally provided and imported environmental models and / or connection information.
- Design of cables and wire harnesses in a 2D working environment – with and without the support of externally provided and imported environmental models and / or connection information.
- Generation of manufacturing documentation in the form of nailboard drawings, cable drawings, material lists, bills of materials, cable diagrams, weight and cost calculation on the basis of the data from the 3D/2D design.

The work method changes frequently or is combined between individual projects but also during the project phases.

The program is designed so that editing in the system can always follow the actual course of the project. The system allows the project to be edited at any time from different views. This releases new potential productivity in engineering and also increases transparency.

Structure

EPLAN Harness proD is divided into two fields. A dedicated program exists for each field.

EPLAN Harness proD – Library

The EPLAN Harness proD Library is used for the creation and management of libraries. The library allows the definition and management of the master data required for wire harness designed and the parts for use in EPLAN Harness proD Studio. The most common information for the part can be recorded. In addition, style libraries for the realistic 3D representation of materials and 2D hatches for 2D representation of materials can be created. Additional documents (specifications, descriptions, images, etc. …) can be attached to each part of the library. These are available during the further editing process.

Existing master data can be imported. Master data can be stored in categorized and structured form.

EPLAN Harness proD – Studio

EPLAN Harness proD Studio is the central working environment for the development of a wire harness in a 2D and / or 3D working environment. Data and documents are organized in projects within the Studio. The Workdesk represents the 2D working environment, the Workspace represents the 3D working environment.

Projects

A project combines the elements of the wire harness design and can contain several variants, Workspaces, Workdesks, nailboards, cable drawings and reports.

Projects can be created based on templates. These can contain connections, electrical options, variants (including electrical configurations) and settings.

Snapshots of a project document can be created. This makes it possible to maintain various versions of the project documents.

User-defined properties can be defined for a project.

A project can contain external documents. This allows project-specific documentation to be managed together with the project.

Workdesk

The Workdesk is the 2D working area in which the development of the wire harness is carried out in 2D. It is displayed in the form of a document in the project structure.

EPLAN Harness proD generally allows the definition and management of several Workdesks in a project. Several revisions of a Workdesk can also be created.

Workspace

The Workspace is the working environment in which the development of the wire harness is carried out in 3D. It is displayed in the form of a document in the project structure.

EPLAN Harness proD generally allows the definition and management of several Workspace documents in a project. You can create several revisions of a Workspace.

Variants

Variants serve to represent different "mechanical" configurations of the environmental model in whose context the wire harness is planned.

Variants can furthermore encompass various electrical configurations.

Electrical options

Several electrical options can be defined within a variant. These options are used to assign the electrical function in the system to individual objects.

Electrical configurations

An electrical configuration is a set of electrical options. It corresponds to a manufacturable product.

In the Workspace or Workdesk you can create 150% design without specification of the electrical target configuration. If no electrical option is assigned to an object, it is available in all electrical configurations.

The Workspace or Workdesk draft can be converted to the desired electrical configuration at any time. Objects which are available in the draft without specified electrical configuration are then removed from the draft on the basis of the assigned electrical options and the entire system is recalculated (diameter, lengths, etc.). Nailboard drawings, cable drawings and reports can be created configuration-specifically.

Wire Harness Elements

The elements required for the design of a wire harness are available to the user.

Wire harnesses

Wire harnesses are basic grouping objects which are intended to group related objects to form a logical and technological group for later editing of production calculations.

Wire harnesses are output objects for nailboards and reports.

Cable units

Cable units are basic grouping objects which are intended to group related objects by forming a logical and technological group for later editing of production calculations.

Cable units are source objects for cable drawings and reports.

Complex entities

Complex entities are grouping objects which are provided for the reuse of complex design parts. They can be copied between design documents or projects using the Clipboard.

Complex elements can be saved permanently in an external file (*.hxce). They can be reused in Workspace or Workdesk by importing them from the *.hxce file.

Hxce files contain all the required library parts and can be transferred into every compatible EPLAN Harness proD design without having to transfer the linked data.

Connectable objects

In EPLAN Harness proD the connectable object serves as a general generic term for components to which wires can be connected. These can, for example, also be connectors, terminals, relays or other components.

Wire terminals

A wire terminal is a crimp contact that is applied to the conductor material of a wire.

In EPLAN Harness proD wire terminals can be defined at the connector and assigned to the connected wires.

Cavity seals

Cavity seals are connected with cavities and wire in order to establish a seal between the cavity and wire.

In EPLAN Harness proD cavity seals can be placed if a wire is connected to the pin / the cavity.

Cavity Plug

A cavity plug closes the unused cavities of a connector. In EPLAN Harness proD cavity plugs can be added to a pin to which no wires are connected. This functionality is most commonly used at connectors that have to be protected against the ingression of water.

Special components

A special component (e.g. splice, fuse, capacitor, etc.) can be placed on bundles and objects derived from them (wires and surface protection).

Wires

Wires represent the electrical connection in the wire harness. They are available to the user with their typical properties. Wires can be routed singly or in a bundle.

Cables

Cables consist of partial layers (such as insulation, shields, twists, wires, etc.), each of which can be connected separately. Functionalities for routing cables are available to the user.

Bundles

A bundle represents the joint routing track of the individual wires, cables or twists. It can be rerouted in the Workdesk or Workspace. It can be routed in the Workspace or in the Workdesk environment and later displayed in nailboards or wire harnesses and listed in reports.

Bundles can be visually switched to display the contained wires or cables or a defined visual style in the form of a material.

If the bundle is covered by a surface protection, the properties and the visual display of the bundle are changed accordingly. Surface Protection

Surface protections

The following objects are available as surface protection for bundles: Surface protection (general), loom, wrap tape, flexible pipes / tubes, braided sleeve and shrink tubing. A realistic 3D representation of the various types can be created through the definition of a material in the style library. The creation of 2D patterns that can be used to represent the various surface protection types on the nailboard or cable drawing is also possible in the material library.

Parts

The "Place parts" command is used to insert purely mechanical parts, cavity housings or backshells in the Workspace / Workdesk.

Leading parts

The "leading part" is used to fasten wires and bundles / cables, to protect them or to specify their course. This can for example be a clip, fitting or a grommet. As soon as leading parts have been placed, an additional functionality is available with which the leading part can be connected with other objects, for example bundles and wires.

Wires, cables and bundles can be routed through a leading part element or fastened to a clip point with the functionalities "Semi-auto route", "Manual route", "Route path segment" and "Merge control points".

Note:

Only the commands "Route path segment" and "Merge control points" can be used to route wires, cables and bundles through a clip point.

Assemblies / devices

An assembly or a device consists of several library objects that are combined into a functional unit. These units can then be placed in the Workspace / Workdesk.

Labels

A label is a hanger or sticker used to identify wires or bundles.

Labels can be attached to bundles (also with surface protection), cables and wires.

Annotations

Annotations can be used to describe an object in more detail.

Cable Tie

Cable ties can be placed on bundles (also with surface protection).

Cable ties can be mounted several times and in a defined number / with a defined distance on a target object.

Rapid Prototyping

Rapid Prototypes (RP) are prototypes which are to be used as placeholders until a final decision on the concrete library part has been taken.

EPLAN Harness proD offers the following Rapid Prototyping parts: RP wires, RP cables, RP ribbon cables, RP connectable objects, RP ribbon connectors and RP splices.

Rapid Prototyping parts do not have to be created in the EPLAN Harness proD Library, but are rather generated directly in EPLAN Harness proD Studio when required.

Rapid Prototyping parts are available both in the Workspace and in the Workdesk and are included and reported in reports, nailboards and cable drawings.

In the course of the project work Rapid Prototyping parts can be replaced by parts from the library.

Cable and Wire Harness Design

Measuring a Distance

Distances in EPLAN Harness proD can be measured with the command "Measure distance". There are two possibilities of simple and linked measurement.

The temporarily displayed distance disappears when another command has been activated.

Active Dimensions

Active dimensions are inserted with the elements wire, cable, ribbon cable, bundle and surface protection in the Workdesk. A single active dimension is placed in the path segment, meaning between two neighboring control points each.

Auto Route

This command can be used to route unrouted wires automatically through bundles, surface protection, loom, wrap tapes, flexible pipes / tubes and leading parts.

Instead of automatically, routing can be carried out manually, semi-automatically or individually and path-specifically.

Position Constraints

A group of objects is often defined on the basis of relative positions and fixed distances. When the superior object is moved, all the dependent objects are also moved as a group automatically. This powerful functionality allows the creation of constraint chains and thus reduces the time required for the positioning of individual parts. It also offers the possibility of later editing individual objects that are already placed.

Placing Attached Parts Automatically

A preview is available for the entire placement process of 3D objects. This means that all the objects can be placed directly at the suitable positions. Revision work that may be required can be reduced through this. In many cases revision work may no longer be required.

Hiding / Showing and User-defined Views

The perspective and the set visibility of objects can be stored in user-defined views. These stored views are available for later usage.

Tooltips

The user can obtain some important parts data from a so-called tooltip. This is displayed when the mouse is "moved over" the part.

Organizing Parts in Patterns

Parts can be organized in patterns in the 3D environment. These patterns can be changed later.

Placing Additional Parts Automatically

If additional parts (wire terminals, cavity seals or cavity plugs) are defined for connectors in the library, these are added or removed automatically in accordance with special rules and conditions.

Automatic creation of cable units

In the Workspace and Workdesk environment several cable units can be created at once on the basis of cables already created with the command Automatic creation of cable units. The rules for the assignment of cables and their accessories to the cable units are defined in the dialog for the creation of cable units. This is especially useful if a large number of cables has already been routed and these are to be processed further in nailboards, cable drawings or reports.

Task List

EPLAN Harness proD allows the Workspace / Workdesk to be checked for errors. The results of this check are shown in the task list.

The task list provides an overview of the active tasks in the Workspace / Workdesk. It is possible that not all the active tasks are completed automatically. EPLAN Harness proD therefore also allows interactive manual editing in addition to the automated processing of active tasks. Tasks that result during the import are also listed in the task list.

Nailboards and cable drawings

Nailboards

EPLAN Harness proD allows the creation of 2D nailboard drawings. Nailboards can be created with existing background objects and defined settings by means of templates.

The Nailboard is derived from the Workspace / Workdesk. The Nailboard has the same information status as the Workspace / Workdesk at the time of derivation. The Nailboard is not updated automatically when work is continued in the Workspace / Workdesk. Synchronization between the Workspace / Workdesk is carried out manually at the desired moment by the user.

Segments can be adapted graphically at Nailboards that were derived from a Workspace (3D). The nailboard layout is created automatically on the basis of the layout rules.

Graphical adapting of the segments is not possible at Nailboards that were derived from a Workdesk (2D). The nailboard layout follows the layout of the source Workdesk.

Manufacturing drawings can be completed through the inclusion of labelings such as wire numbers, bills of materials, working instructions or DXF files for pin or connector symbols.

Cable drawings

EPLAN Harness proD allows the creation of 2D cable drawings, so-called cable drawings. Cable drawings can be created with existing background objects and defined settings by means of templates.

The cable drawing is derived from the Workspace / Workdesk. The cable drawing has the same information status as the Workspace / Workdesk at the time of derivation. The cable drawing is not updated automatically when work is continued in the Workspace / Workdesk. Synchronization between the Workspace / Workdesk is carried out manually at the desired moment by the user.

Manufacturing drawings can be completed through the inclusion of labelings such as wire numbers, bills of materials, working instructions or DXF files for pin or connector images.

Nailboards and Cable Drawing History and Change Checking

Differences that exist between two nailboard drawings or cable drawings can be found automatically. The user can select the objects that are to be compared from a specified list. This allows changed or added parts to be identified.

Nailboard / Cable Drawing Export

A nailboard and a cable drawing can be exported into the following formats: DXF, DWG, SVG, PS, PDF, JPG, BMP, GIF, PNG, TIFF, RGB.

Connectable object table

A table with connectable objects (such as connectors, terminals, etc.) contains a summary of the connectable object's pins and the wires connected to them.

Special component tables

A special components table contains information on the special component, the wires that run through it, and which wires are connected to which pins.

Spider Diagram

A spider diagram shows the wires connected to a splice and information about the pins used.

Wire List

A wire list contains information about wires as well as the connected connectors and their pins.

Bundle / cable content tables

A list of contents for cables / bundles contains information about passing elements at a selected control point of a bundle or cable.

Bill of Materials Table

A table that lists the parts used. The table furthermore contains corresponding properties of the library parts.

Wire Harnesses Table

The table contains information about all the wire harnesses as well as the associated part numbers, ERP numbers and data sources that are represented on the drawing.

Cable Units Table

The table contains information about all the cable units as well as the associated part numbers, ERP numbers and data sources that are represented on the drawing.

Drawing header defined via formula editor

The drawing headers are defined in the library. Individual fields in the drawing header can be filled automatically during the placement in the nailboard or in the cable drawing. To achieve this functionality a reference on the corresponding property or a simple formula must be added to the required fields.

Drawing Notes Table

The table contains drawing notes that are read in from an external file. The table allows uniform customer-specific notes to be represented on the drawings.

Surface Protection Table

A table that lists the surface protection used and the associated properties such as the length, width etc.of a Nailboard drawing or cable drawing.

Surface Protection Legend

A legend in the form of a simple table that lists the hatch and the type.

Layer

Layers serve to structure the graphical objects of a project, to separate them and to control their graphical representation.

Layers can be defined as visible, invisible, selectable or not selectable. The layer technique makes working with many objects simpler and better structured.

This layer-oriented structuring of the graphical objects of a project makes it possible to work on specific objects, without interfering with other objects or changing them unintentionally. All-in-all layer technique provides a better overview for the graphical editing of objects.

Reports

EPLAN Harness proD can create automatic reports.

The following reports can be selected in the context of the selected Workspace / Workdesk:

- Bill of materials (aggregated)
- Bill of materials (one-line)
- Cable report
- Wire harness report
- Cable units report
- Connector report
- Splice report
- Surface protection report
- Assembly / device report
- Wire list report.

Each report consists of a series of columns. These columns correspond to the properties of the objects used in the draft. There are two groups of properties. System properties and user-defined properties.

Each report can be configured in such a way that only the required columns are displayed. System columns can be translated automatically by means of a translation dictionary. User-defined properties are not translated.

Templates can be used to create reports with pre-defined settings.

Reports can be exported in the formats *.txt, *.xls, *.xml and *.csv.

Fully customizable reports can be created by means of an external tool. This can freely carry out output processing of the created reports (e.g. specific formatting). EPLAN Harness proD Setup provides an example (including source example written in C#) of such a tool under the name HReportExternally.exe.

Translation

EPLAN Harness proD offers the possibility to translate the column headers and descriptions in Nailboards and Cable drawings (tables) as well as reports, irrespective of the language of the program user interface. The languages German, English, Russian, Japanese, Italian, French and Simplified Chinese are available by default. The user can add further languages as required.

Multi-user

EPLAN Harness proD Studio allows several users to work parallel on the same project.

A project document (Workspace, Workdesk, nailboard, cable drawing, report) can be opened for one user respectively for editing. Further users can only open the respective document write-protected.

Changes to the project structure (for example new Workspace) by a user become visible for the other users as soon as the user who carried out the change stores the project.

If a user changes to the view of the project structure after the structure has been changed by another user, the project structure is first reloaded.

Please contact EPLAN Support with regard to the hardware requirements for multi-user operation. We can advise you specifically according to your individual requirements.

Import / Export

Importing a 3D Model

3Dmodels can be imported into a Workspace / Workdesk on the basis of various formats. The most important elements of the geometry are recognized automatically during importing and are processed for future use.

EPLAN Harness proD supports the file formats specified here and the predecessor version.

The current list of 3D formats supported in the Library and Studio is available in the online help system

DASSAULT SYSTEMES		
Format	**Version**	**File extension**
CATIA V4	4.2.5	MODEL, SESSION, DLV, EXP
CATIA V5	V5_6R2021	CATDrawing, CATPart, CATProduct, CATShape, CGR
CATIA V6	- V5-6 R2019 (R29)	3DXML
SolidWorks	97 - 2021	SLDASM, SLDPRT
ACIS	- 2020	SAT, SAB

SIEMENS		
Format	**Version**	**File extension**
I-deas	- 13.x (NX 5), NX I-deas 6	MF1, ARC, UNV, PKG
JTOpen	- v10.3	JT
UnigraphicsNX	V11.0 - NX 12.0, 1872	PRT
Parasolid	- v32.0	X_B, X_T, XMT, XMT_TXT
Solid Edge	V19 - 20, ST - ST10, 2020	ASM, PAR, PWD, PSM

PTC		
Format	**Version**	**File extension**
Creo – Pro/Engineer	Pro/Engineer 19.0 - Creo 7.0	ASM, NEU, PRT, XAS, XPR

Autodesk		
Format	**Version**	**File extension**
Autodesk Inventor	- 2021	IPT, IAM

The described functionalities are only available for certain module packages.
See the Licensing Overview chapter.

Other		
Format	**Version**	**File extension**
IGES	5.1, 5.2, 5.3	IGS, IGES
PRC	-	PRC, PRD
VRML	V1.0 and V2.0	WRL, VRML
Wavefront	-	OBJ
Stereolitography	-	STL
STEP	AP 203 E1/E2, AP 214, AP 242	STP, STEP, STEPZ

Exporting a 3D Wire Harness Model

3D wire harness designs can be exported from the Workspace in different formats.

The current list of 3D formats supported in the Library and Studio is available in the online help system

Supported file formats:

STEP (*.stp); IGES (*.igs); Parasolid (*.x_t); PRC (*.prc); ACIS (*.sab, *sat), JTOpen (*.jt); Stereolitography (*.STL); Universal 3D (*.U3D); VRML (*.VRML); Wavefront OBJ (*.OBJ)

Exporting project 3D documents (Workspaces and Workdesks) to HTML

EPLAN Harness proD can export projects in an HTML format which can be shown in web browsers on different platforms. It exports all Workspace and Workdesk documents into an autonomous HTML document without reference to the source project or to other data sources.

The HTML document contains the exported 3D data, object properties and predefined views. The visualization takes place via an integrated stand-alone rendering solution which allows visualization of the 3D design. The exported HTML files can be displayed in all common web browsers on platforms that support WebGL2 rendering. The HTML file exported by EPLAN Harness proD can be saved in the file system or on a web server. The browser saves individual settings of an HTML file, such as, for example, visualization quality, backface culling, etc.

The HTML export function in EPLAN Harness proD Studio is available for all licenses under Subscription. No additional license is required for the display in web browsers.

The following web browsers are supported in the most recent versions: Microsoft Edge, Google Chrome, Mozilla Firefox, Apple Safari (with activated WebGL2).

It is urgently recommended to operate the browser with a special graphic card to achieve the best performance.

EPLAN ERP/PDM Integration Suite

EPLAN Harness proD supports the EPLAN ERP/PDM Integration Suite. Through the EPLAN ERP/PDM Integration Suite, that has to be purchased separately and to be licensed separately, you have an interface to the common ERP and PDM systems on the market.

A description of the EPLAN ERP/PDM Integration Suite is available in the corresponding performance description.

Data Exchange with EPLAN Electric P8 and EPLAN Pro Panel

EPLAN Harness proD enables direct data exchange of schematic data from EPLAN Electric P8.

EPLAN Harness proD can read the data directly from EPLAN Platform projects. This solution is based on the EPLAN Platform API and requires that EPLAN Electric P8 Compact, Select or Professional or Pro Panel or Fluid are installed on the same system and that a corresponding license is available.

EPLAN Harness proD can also import the 3D layout of the EPLAN Pro Panel enclosure and place all devices automatically.

Remark: No additional EPLAN Platform API license is required since EPLAN Harness proD is signed with the same key as the EPLAN Platform.

An alternative way to exchange EPLAN Electric P8 data with EPLAN Platform Harness proD without an installed EPLAN Platform being required can be realized offline by exporting the Harness-relevant data from EPLAN Electric P8 into an EPLAN Harness proD exchange format (*.hpdex).

Vice versa the EPLAN Platform can also access EPLAN Harness proD project data by exporting them in the EPLAN Harness proD exchange format (*.hpdex). These data can be imported by EPLAN Electric P8.

Application Programming Interface (API)

EPLAN Harness proD 2022 provides the option to automate standard functions via an API or plug-in to the user.
Programming and usage is possible with the "EPLAN Harness proD API Extension" module.
The documentation of the EPLAN Harness API is published on the eplan.help portal.

Importing Images

Images in different formats can be imported into the Workspace / Workdesk environment.

The following formats are supported:

*.bmp; *.gif; *.jpg; *.jpeg; *.png; *.rgb; *.tiff

Importing Connectors

Connectors can be imported into the Workspace / Workdesk.

Importing of connectors can be used to simplify the project work. You can define the connectors to be imported in a file (txt or csv). The connector name, position and alignment have to be specified after the import.

If the defined connectors do not exist in the active EPLAN Harness proD library, Rapid Prototyping connectors can be used instead.

Importing Wires

Use this functionality to import wires into the Workspace / Workdesk.

The project work can be facilitated through the wire import. You can define in a text file (txt or csv) which wires from the library are to be used, which name the wires are to have after the import and to which connectors they are to be connected.

If the wires do not exist in the active EPLAN Harness proD library, Rapid Prototyping wires can be used instead.

Importing Bundles

Bundles can be described simply by means of a text file and integrated into any existing Workspace / Workdesk.

Importing Drawings in DXF and DWG Format

This functionality allows a DXF or DWG file to be imported into the Workdesk environment.

The desired position as well as the extent (width and height) can be defined individually while retaining the page ratio.

Global Searching

The "Global search" functionality allows specific components or object properties within the documents to be found.

Quick search

It possible to search for context-specific commands and objects by entering the desired text in the text field in the upper right corner of the application. A live preview of the search results is displayed to improve the user-friendliness.

Hardware Requirements

Workstation

The computer platform is a PC with an Intel Core i5, i7, i9 or compatible processor. Rather select a high-speed computer with less CPU cores than a slower computer with more CPU cores.

Recommended Workstation Configuration

Processor:	Multicore CPU, not older than 3 years
RAM:	16 GB
Hard disk:	500 GB (SSD)
Monitor / graphics resolution:	2-screen solution with a resolution of at least 1280 x 1024, recommended 1920 x 1080
3D display:	Dedicated graphics card from AMD (ATI) or Nvidia with current Direct3D 11+ / OpenGL 3.2+ driver with 2GB RAM (recommended 4GB+)

Network

We recommend using a Microsoft Windows network.

Net transfer rate of the server:	1 Gbits/s
Net transfer rate of the client computer:	100 Mbits/s
Recommended latency	< 1 ms

Multi-user

With regard to minimum requirements for multi-user operation, please contact EPLAN Support. We can advise you specifically according to your individual requirements.

Software Approvals

In the current Version 2022 the programs of the EPLAN platform are available as a 64-bit version.

Operating Systems

EPLAN Harness proD supports the 64-bit variants of the Microsoft operating systems Windows 7, Windows 8.1 and Windows 10.
The EPLAN user interface language installed must be supported by the operating system.
The following are required for the operation of EPLAN Harness proD:

- Microsoft .NET Framework 4.7.2
- Microsoft Visual C++ 2013 Redistributable Package
- Microsoft Visual C++ 2019 Redistributable Package
- DirectX 11 Runtime

The program is identified by EPLAN as compatible in accordance with the requirements specified in this performance description on the following operating systems:

Workstation

- Microsoft Windows 10 (64 bit) Pro, Enterprise (Microsoft supported builds in the main servicing branch Build 19H2 - 21H1)

Server

- Microsoft Windows Server 2012 R2 (64 bit)
- Microsoft Windows Server 2016 (64 bit)

Licensing Overview

✓ Standard functionality O Optional - Not available

EPLAN Harness proD	Studio		
	100[*1]	300[*2]	Prof.[*3]
Library	✓	✓	✓
Nailboard	✓	✓	✓
Cable Drawing	✓	✓	✓
Report	✓	✓	✓
Variants and Options	-	-	✓
EPLAN CAD Translator	✓	✓	✓
EPLAN Harness proD HTML Export	✓[*4]	✓[*4]	✓[*4]
EPLAN Harness proD API Extension	O	O	O

[1] 100 connections per Workspace / Workdesk
[2] 300 connections per Workspace / Workdesk
[3] More than 300 connections per Workspace / Workdesk
[4] Only for Subscription

Errors and changes reserved.