ZUKEN®

E³ series®

SPECIAL FUNCTIONALITY IN E³.HarnessAnalyzer

- Optimize the process chain and collaborate more efficiently with suppliers

- Easily share detailed harness data created by a range of authoring tools for viewing, browsing, analysis, validation and commenting

- Read KBL, VEC, HCV and other design data

- Visualization in 2D and/or 3D

- Harnesses can be merged to complete wiring system of a vehicle

- Manage configurations based on modules for customer-specific harnesses (KSK-support)

- Quickly and automatically compare two versions of same design document

- Powerful search functionality

- All technical objects can be filtered, sorted and exported to Microsoft Excel for post-processing.

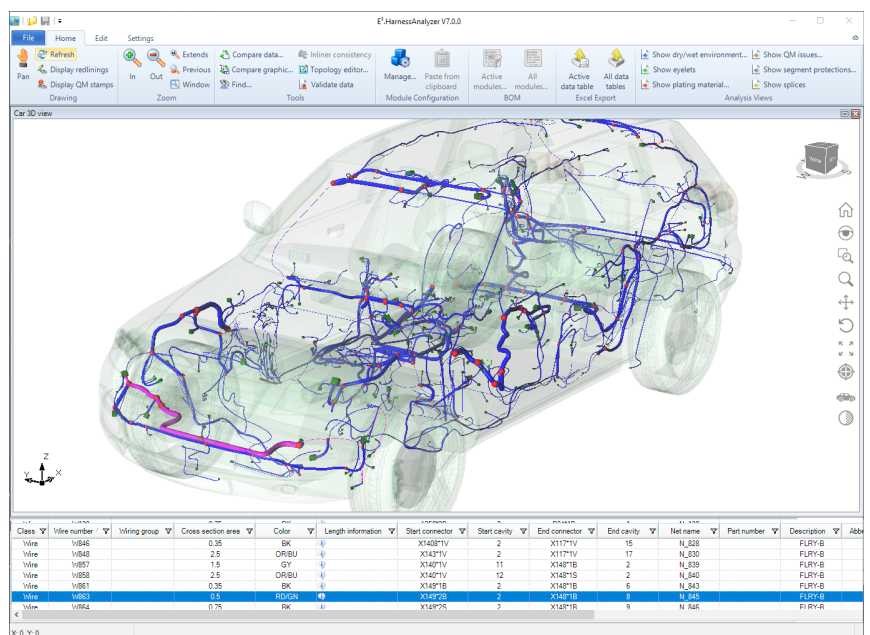# E³.HarnessAnalyzer - Smart collaboration for the automotive harness industry

Introduction

E³.HarnessAnalyzer is a powerful tool for viewing and analyzing harness drawings in the standard HCV container data format, which combines KBL (physical data model) and SVG (vector graphics) data. In addition it can read in data in the new VEC format as well in native formats like PLMXML or DSI. Depending on the import data the redering of the harness system is done in 2D and/or 3D.The tool supports efficient collaboration through powerful analysis, redlining, and version compare functionality.

A key benefit is the ability to manage configurations based on modules for customer-specific harnesses (KSK). These features provide a new level of ease-of-use when sharing the comprehensive harness design model and documents with internal or external project teams.

Supported industries

E³.HarnessAnalyzer paves the way for harness design collaboration in the demanding automotive, special vehicles and wider transportation industries. It is easy to use and allows efficient viewing, browsing, analyzing, validating and commenting on the design model and related drawings generated by today's growing number of authoring tools. The tool enables OEMs to optimize their process chain and collaborate with their suppliers. It allows detailed harness data to be made available to all stakeholders, such as release engineers, quality inspectors and production planners.
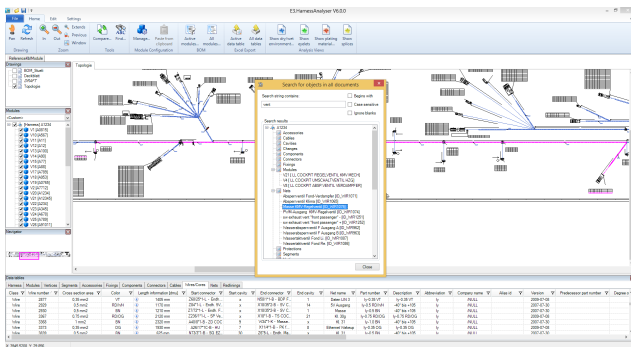
Analyze

Based on 3D-coordinates in the imported data (KBL, VEC or PLMXML) the tool can render the harness as a fully 3D model. When a 2D drawing is added in the import data (HVC or DSI) the tool can also visualize the detailed 2D-drawing in high resolution and XXL-scale formats (e.g. 1m x 60m) are supported. Standard functions such as zooming, panning, printing and graphics export to other formats are available. Technical information (physical harness model) is displayed in a grid structure with highlighted links to the graphical representation in the drawing, and vice versa. Investigate aspects of the design using analysis functions that can, for example, show all connectors with gold plated terminals, or indicate splice or eyelet positions for validation purposes.

Search

With today's large designs and drawings, the search function has become a major day-to-day requirement. E³.HarnessAnalyzer supports this with a Google®-like search functionality across all technical objects of a design.
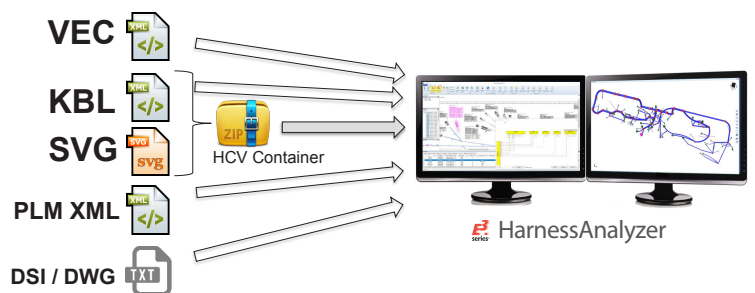

Compare

Design collaboration typically involves fast manual detection of changes made by other designers when a new harness drawing version is released. E³.HarnessAnalyzer quickly and automatically compares two versions of same document and cross-highlights the drawing to show differences. Results may be exported to Microsoft Excel.

Redlining

With E³.HarnessAnalyzer users can mark-up documents with textual comments structured by classes such as "error" or "confirmation", which are displayed as flags in the drawing. All annotations can be exported for further processing, such as design review in the original authoring system or archiving for change management.

Supported formats

E³.HarnessAnalyzer imports HCV format data, which includes complete drawing information. This container format is supported by several harness design authoring tools and enables a vendor-independent combination of best-in-class tools in the different phases of the design and engineering processes.

Module structure

Master harness drawings may contain module families along with their modules. E³.HarnessAnalyzer displays the related information on module families and modules according to STEP AP212 KBL data structure – module history information included. The module structure can be used to filter the information in views and lists for the content of a single module or an arbitrary combination of modules. Module-specific plots can be created, as well as module-specific exports to Microsoft Excel. The user may define their own configurations and store them in the HCV container for later use.

Additional E³.series options

E³.cable

Enables the design of cable assemblies and wiring harnesses. Its multi-view functionality allows alternate documentation of devices such as single-line diagrams, wiring diagram and cable plans to be created for production and service.

E³.topology

Supports the architecture design by portioning off complex vehicle wiring systems into harnesses, and allocating devices and connectors to installation spaces.

E³.formboard

Enables creation of rich harness drawings that can be used as contract documents as well as production drawings.

E³.3DRoutingBridge

Used when collaborating with 3D MCAD systems. Transfers electrological data to 3D, then after routing, transfers length information back into E³.series.