

ELECTRICAL 3D SYSTEMS DESIGNER

3DEXPERIENCE ROLE



INTEGRATED 3D ELECTRICAL DEVELOPMENT ENVIRONMENT THAT ENABLES THE PHYSICAL DESIGN OF WIRE HARNESSSES, CABLING AND RACEWAYS IN THE CONTEXT OF THE DIGITAL MOCK-UP.

OVERVIEW

The CATIA Electrical 3D Systems Designer role allows users to synchronize the electrical schematic to the 3D design to improve electrical systems quality and consistency.

Users can design and optimize electrical 3D harness bundles and cableways accurately in the context of the full product and avoid the need for costly physical prototypes.

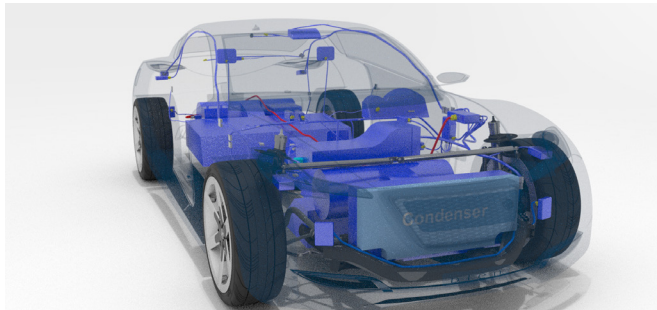
The role enables the routing of 3D wires and cables to obtain exact bundle diameters and wire/cable lengths.

- Automatic synchronization & validation between schematic diagrams and 3D Wire Harness definition
- Productive user interface and capabilities to efficiently design high quality complex wire harnesses and cabling systems
- Accurate 3D digital mockup of complete wire harness and cabling with in-context simulation
- Lower cost, improve quality and reduce development time.

Electrical 3D Systems Designer has powerful functionality and checking tools to help increase efficiency and improve electrical system quality.

KEY CAPABILITIES

CATIA Electrical 3D Systemes Designer



Accelerate product development by enabling the 3D virtual design of wire harnesses and cabling in the context of the Digital Mock-Up. Automatic synchronization & validation between schematic diagrams and 3D Tubing definition

- Reducing physical mock-ups by 95-100%,
- Reduce wire length over estimates by up to 25% compared to a 2D only process
- Improving the electrical design quality by enabling schematic-driven design using integrated ILogical to Physical process coverage
- Creating the best electrical harnesses ever (US customer) by improved functional design (minimizing design errors drastically reducing redesign and improving electrical harness manufacturability)
- Significant wire routing time reduction (from logical to physical integration in minutes instead of hours)

KEY ROLE APPS

CATIA Electrical 3D Systems Designer contains the following key apps

- CATIA Electrical 3D Design 
- CATIA Electrical 3D Part Design 
- CATIA Electrical Raceway 3D Design 
- CATIA Electrical Raceway 3D Part Design 
- CATIA Hanger Design 

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KEY USE CASES

Route Bundles

- Place Equipment and Connectors
- Create electrical bundle paths through the overall product design
- Define bundle characteristics (branching locations, bend radius, initial bundle diameter, overall slack)
- Optimize the bundle path through supports and supporting geometry
- Adjust local slack lengths
- Place protections (heat-shrink tubing, tape, strain reliefs, corrugated looms)
- Check bundle consistency with network assistant

Synchronize/Import Conductors (wires and cables)

- Using XML iXF (standard) to import wire information from schematic systems
- Or, use the Logical to Physical tool to synchronize with CATIA System Schematic Designer information
- Use Routing Assistant to route wires through the defined bundles, respecting segregation codes and wire bend radius.
- Obtain wire lengths instantly (also available in exportable reports) and bundle diameters.

3DEXPERIENCE® PLATFORM

A COMPLETE electrical wire harness lifecycle management solution that can be quickly and easily integrated with existing tools & processes.

- Accelerate the collaborative delivery of product innovations to market and strengthen the ability to manage complex systems.



3DEXPERIENCE®