

# Creo™ Elements/Direct™ Cabling

CREATE ELECTROMECHANICAL PRODUCTS AND OPTIMIZE DESIGNS FOR MANUFACTURABILITY

Formerly CoCreate®

Creo Elements/Direct Cabling combines electrical and mechanical design data, so you can fully simulate electromechanical products and shorten lead times.

Design and validate physical harness routing, generate accurate bill-of-materials, specify connector types and lengths, and support engineering analysis.

## Make the most of your processes for wire harness development

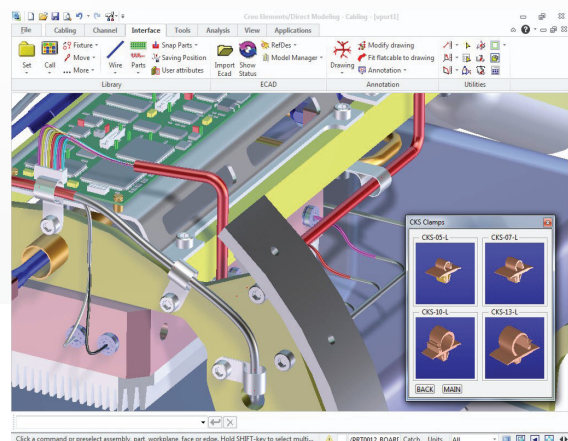
Save money and time by switching to software-based development instead of manually defining your harness. Re-use information already in your MCAD and ECAD system to speed development and combine both into a common product model. Never wait for a mechanical prototype to measure and estimate your wire harnesses again.

## Accommodate late changes in the process

Design your wire harness with Creo Elements/Direct Cabling in 3D using the same tool you use for mechanical design. That way, teams can support late requirement changes without threatening schedules or forcing complete rework.

## Key benefits

- Speed design – Access specialized flexible and rigid cable design capabilities that boost productivity and speed the design of electromechanical products
- Build perfect prototypes – Eliminate errors in connector positioning, cable lengths, and housing considerations by using 3D CAD to fully design and validate complex wire harness assemblies before you produce any physical prototype
- Create manufacturing-ready drawings – Easily create manufacturing-ready drawings of cable harness designs, completely annotated with all necessary manufacturing information
- Promote standard manufacturing materials – Use wire and connector libraries to make sure cabling designs use standard manufacturing materials, and cut unneeded custom cable costs



Use Creo Elements/Direct Cabling to simulate electromechanical products and optimize designs for manufacturability.

## Features and specifications

### Design and route cables

- Design 3D cable harnesses within Creo Elements/Direct Modeling
- Interactively or automatically route cables between pins of physical components
- Easily connect multi-conductor cables
- Define virtual and physical cable channels
- Use extensive features for dynamic ribbon cable routing

### Run reports and calculations

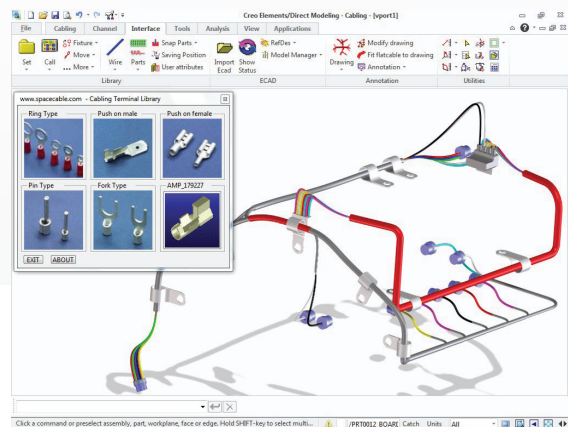
- Check electrical, physical, and manufacturing information
- Ensure manufacturability with checks for minimal cable bend radii, multiple wires on same pin, open wire ends, etc.
- Define and customize additional design rules
- Calculate cable diameter, maximum bend radii, maximum wire length, and other values
- Generate reports like bill-of-materials, connection or wire "from-to" lists, and others
- Define company-specific reports

### Create cable harness drawings for manufacturing

- Automatically generate accurate, associative 2D formboard (nail board) drawings for harness manufacturing
- Automatically create required dimensions
- Move, rotate, and scale cable segments or connectors to improve position or annotation
- Add annotations like dimensions, tables, wire run-lists, and bills-of-materials directly on the harness drawing
- Add standard or embedded dimensions of the actual harness length
- Add annotations like pin, wire, and connector properties

### Access an entire electrical library

- Choose from wires, cables, fixtures, connectors, and other components in native Creo Elements/Direct Modeling format
- View electrical properties, location points, and assembly directions in all library parts
- Snap in components automatically with predefined mating points
- Extend the library with your own company-specific components



Creo Elements/Direct Cabling is a flexible add-on module for Creo Elements/Direct Modeling, the world's #1 direct 3D CAD system.

### Verify designs

- Share electrical and mechanical data and accurate 3D prototypes for design reviews

### Import and export

- Import wire lists from any ECAD system
- Automatically create all required wires based on the imported wire list
- See missing components, unplaced components, connection differences, etc. when importing with intelligent update checks
- Automatically create connections with cable air nets
- Auto-route air nets via pre-defined channels and virtual paths for optimized harness results
- Export cable information back into ECAD systems

### Prerequisites

- Creo Elements/Direct Modeling

### Platform requirements

Runs on the same Windows® platforms as Creo Elements/Direct Modeling:

- Windows 7 32-bit and 64-bit Editions of Ultimate, Enterprise, and Professional
- Windows Vista® 32-bit and 64-bit Editions of Ultimate, Enterprise, and Business
- Windows XP Professional 32-bit and 64-bit Editions

For the most up-to-date platform support information, visit:

[PTC.com/partners/hardware/current/support.htm](http://PTC.com/partners/hardware/current/support.htm)

For more information, visit:

[PTC.com/products/creo-elements-direct](http://PTC.com/products/creo-elements-direct)

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