SOLIDWORKS
3DEXPERIENCE® Works
WHAT'S NEW 2025

SOLIDWORKS Design

BEYOND 3D

UNIFIED SOLUTIONS

Over 200 enhancements and performance updates delivered throughout 2024!

SOLIDWORKS 2024x GA

Enhancements in each FD

SOLIDWORKS 2025x GA

SOLIDWORKS

Parts

Sheet Metal & Weldments

Assemblies

Drawings & MBD

Collaboration

Rendering

ECAD – MCAD

Manufacturing

SOLIDWORKS Cloud

SOLIDWORKS

Cosmetic Thread Performance

- For multibody & sheet metal parts:
  - Open part, create/edit features, updating/rebuilding

Z-Up Templates

- Select Y-up or Z-up when creating new parts or assemblies
- Flexibility for downstream workflows

Chamfer Selection Accelerator (2024 FD02)

- Select multiple edges quickly
- Spend less time on details and more time on design

Silhouette Defeature

- Create highly simplified but recognizable representations
- Can help protect intellectual property

WHAT'S NEW 2025 | PARTS

SOLIDWORKS

Graphics Triangle and Face Count (2024 FD01)

- Helps you determine
  - Model complexity
  - Impact on performance

Smooth Variable Size Fillets

- Improved algorithm to create smooth continuously blended faces

Deleting Rolled-Back Features (2024 FD02)

- Delete complex features without rebuilding them

WHAT'S NEW 2025 | PARTS

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Auto Repair Sketch Relations & Dimensions

- Quickly repair dangling entities

Measure Projected Area (2024 FD01)

- Projects a silhouette on a selected plane
- Streamlines a difficult workflow

WHAT'S NEW 2025 | PARTS

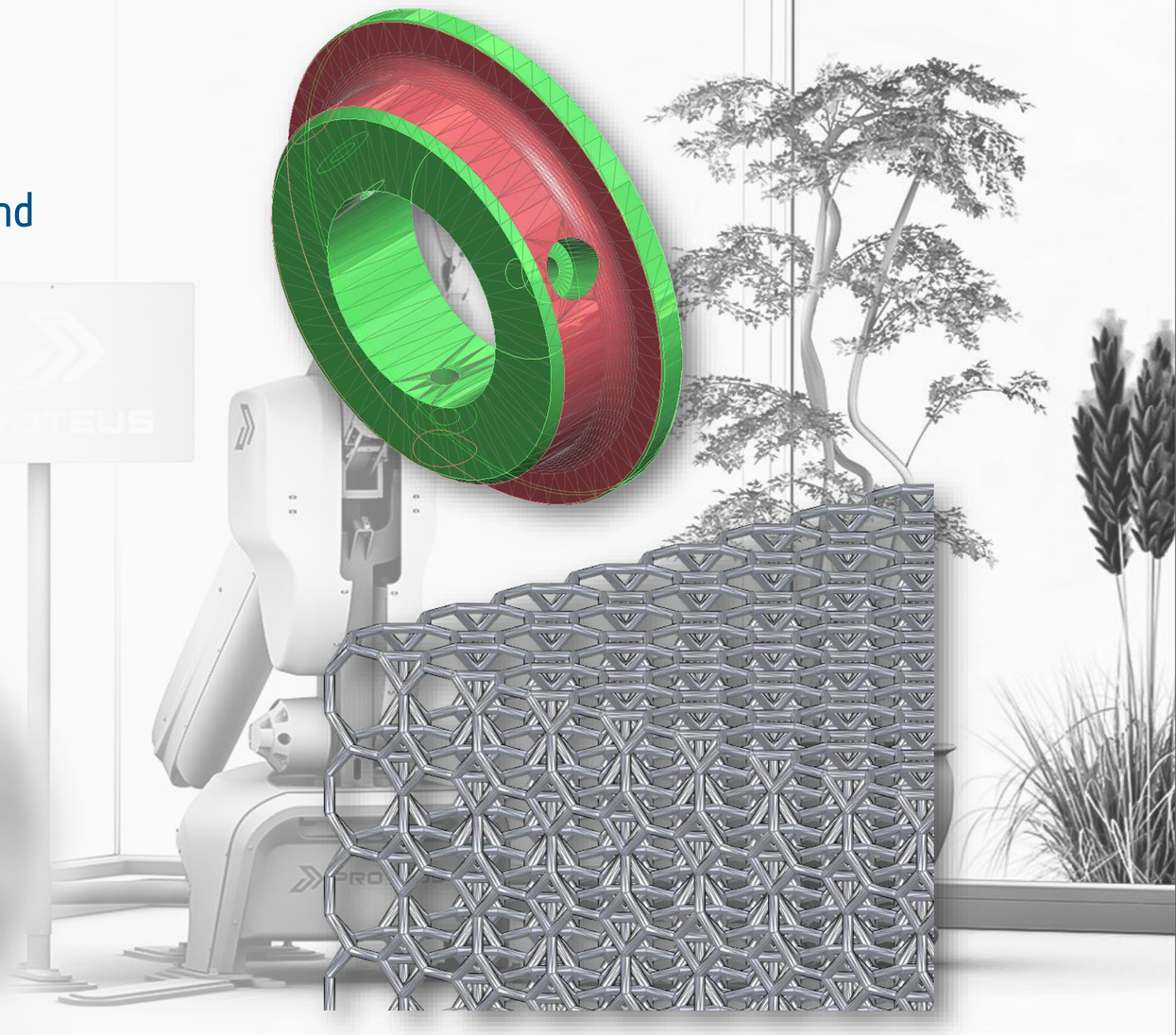
SOLIDWORKS

Convert Mesh to Standard BREP

- Convert more Mesh faces to superior Standard BREP
- Automatically recognize and convert planar, cylindrical, conical, and spherical faces

Import 3MF Beam Lattice (2024 FD01)

- Will import as:
  - Parasolid lattice
  - Graphics mesh
  - Wireframe lattice
- Can be converted to mesh geometry

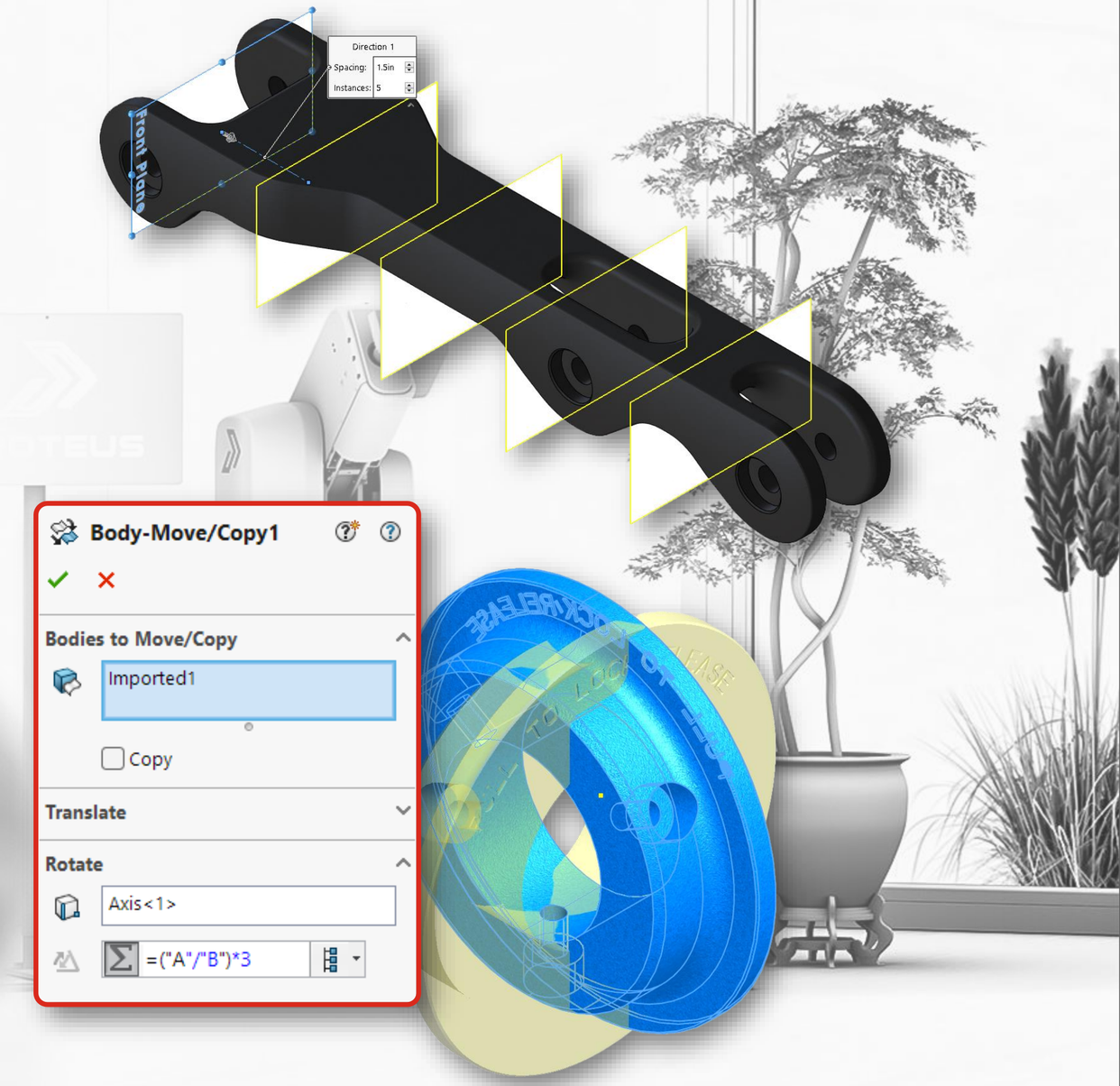


Pattern Reference Geometry

- Create linear or circular patterns of planes and axes

Move/Copy Bodies Enhancements

- Translate and Rotate now support:
  - Equations
  - Configurations
  - Flip dimension



WHAT'S NEW 2025 | PARTS

SOLIDWORKS

Curve Through XYZ Points at Coordinate System

- The curve generated with X,Y,Z points entered will be placed in the graphics area with respect to the coordinate system selected
- Update the curve using the Reload button

Convert Entities as Construction (2024 FD01)

- Convert selected entities into construction geometry during creation

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Copying Cut List Properties (2024 FD01)

- Quickly copy properties to many items
- Saves time – no need to manually copy or type

Bend Notches

- Create visible marks across bends
- Helps operators line up bends with tooling for fast & accurate parts

Tab and Slot Enhancements

- Greater flexibility
- Center align, equal offset, tab directions, and instance to skip

Multi Length Edge Flanges

- No longer requires editing the flange profile
- Automatically fully define flange sketch

WHAT'S NEW 2025 | SHEET METAL & WELDMENTS

SOLIDWORKS

Groove Beads

- Create solid welds between two bodies with a groove or cavity

Sheet Metal Flatten Performance

- Optimized Fold/Unfold/Flatten:
  - Large number of bodies
  - Large number of cuts in bends

Cut List Update Performance

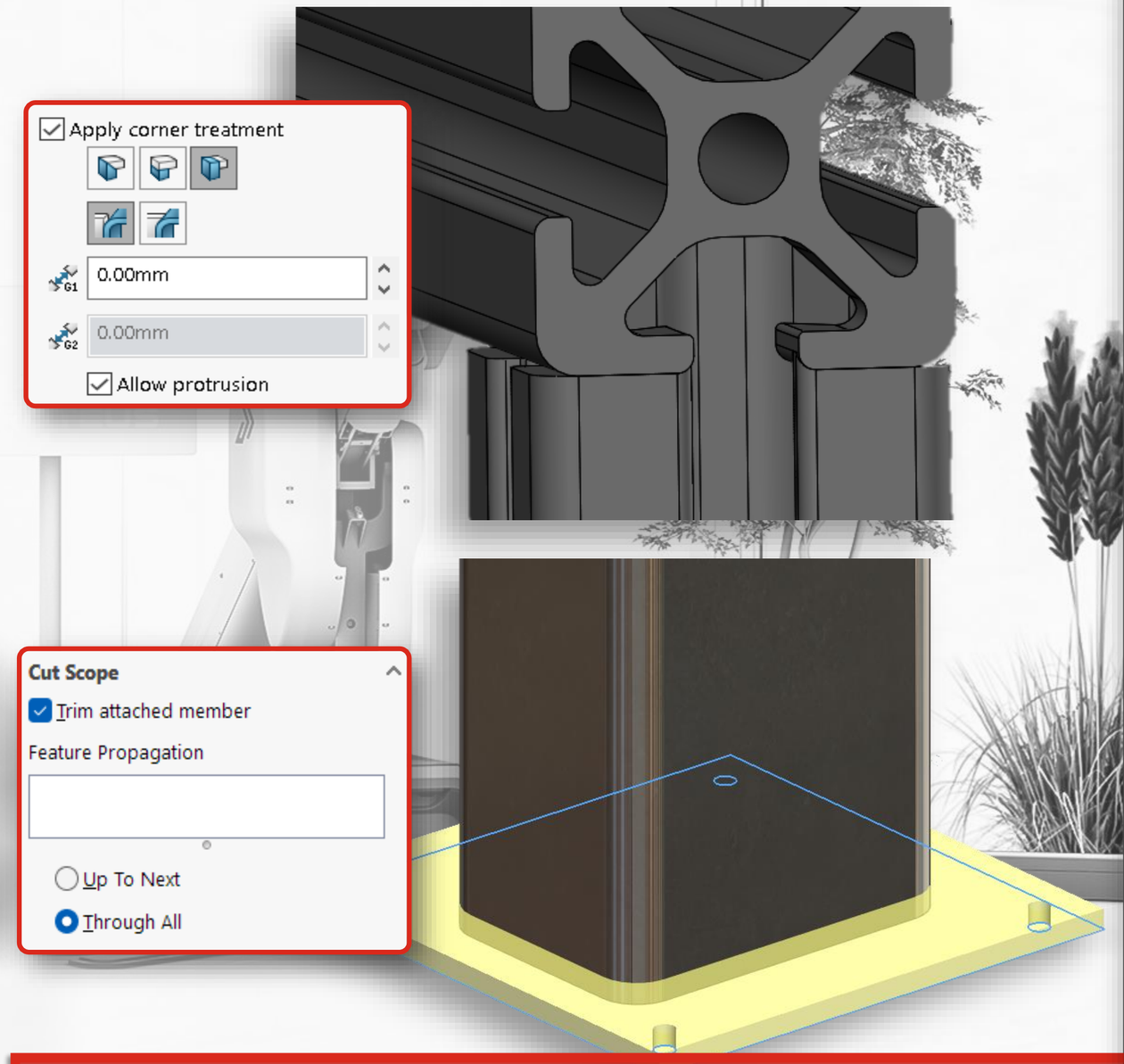
- Optimized Updates/Compute/Sort:
  - Large number of Cut List items

Allow Protrusion on Complex Profiles

- Allow protrusion during planar body trim

Structure System Improvements

- Improved creation and Corner Treatment UI
- Mirror a Patterned Structure System (2024 FD01)
- Pattern a Mirrored Structure System (2024 FD01)
- Connection Elements can trim members



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Performance Evaluation

- Previous version files and locations are now reported
- Graphics Display Triangles greater than 5000 and reported
- Shortcut locations to easy open and edit high triangle count components

Speedpak

- Create Speedpak configurations at the top level of the assembly

LDR | Breadcrumbs (2024 FD01)

- Breadcrumb selections are now supported in LDR

WHAT'S NEW 2025 | ASSEMBLIES

SOLIDWORKS

LDR | Component Preview (2024 FD02)

- Component preview window is now supported when working in Large Design Review mode

Display State Table

- Manage hidden/shown components in assemblies through a single Display State table

Document Groups

- Save and recall multiple open .sldprt, .sldasm, .slddrw documents with a single click

WHAT'S NEW 2025 | ASSEMBLIES

SOLIDWORKS

Copy with Mates

- Copy with Mates now supports all mechanical and advanced mates

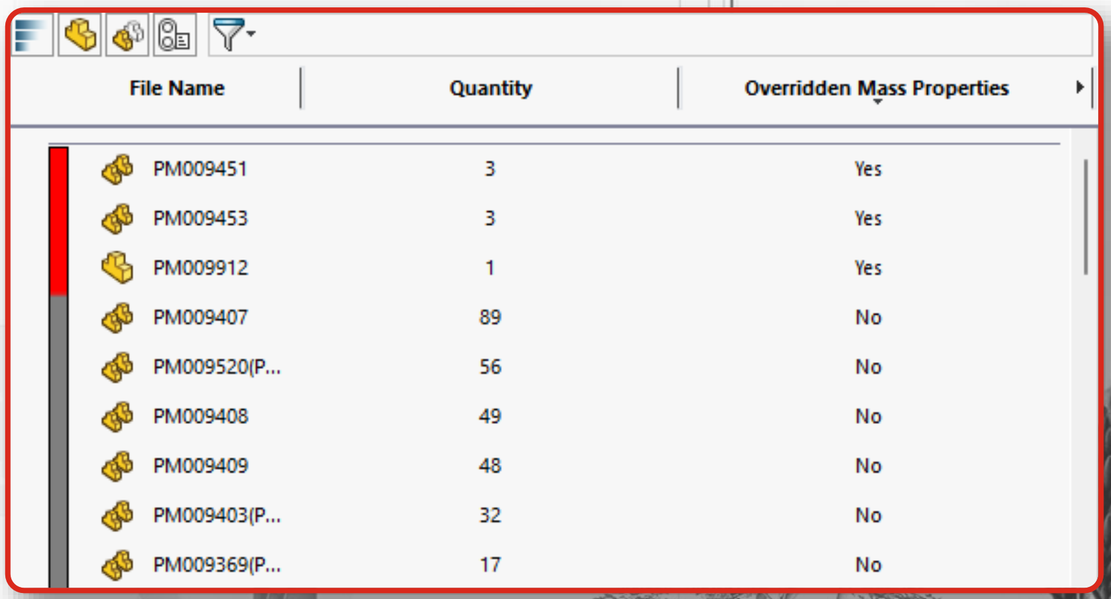
Z-Up Workflows

- Users can define a part and assembly template around a Z-up coordinate system

WHAT'S NEW 2025 | ASSEMBLIES

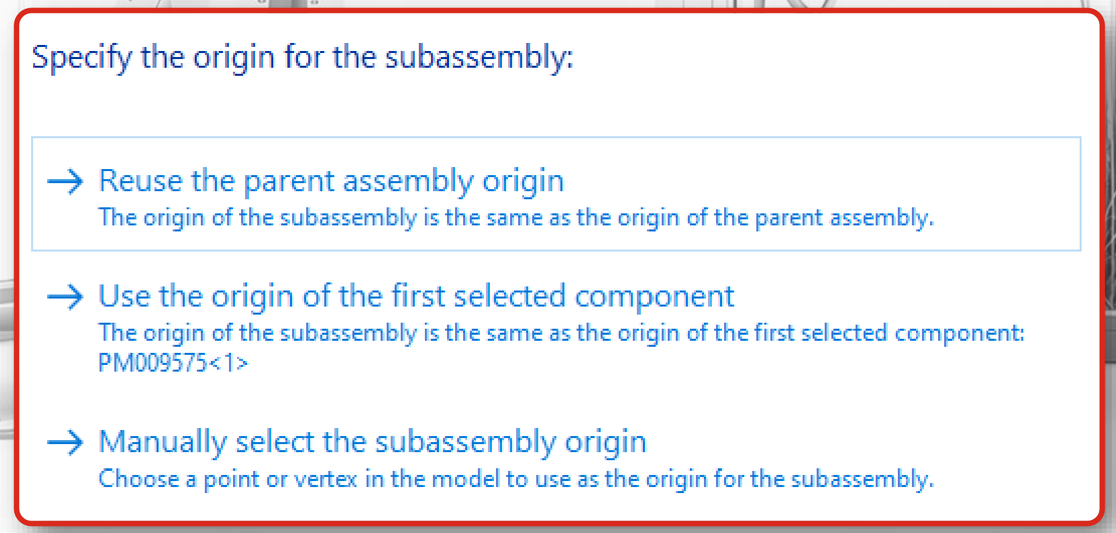
Assembly Visualization

- Includes 3DEXPERIENCE Connected Attributes
- Colors can be defined for specific values
- Additional property support



Subassembly Origin Control (2024 FD02)

- More options for coordinate system when creating new subassembly
  - Reuse parent assemblies' origin location
  - Use the origin of first component in selection
  - Manually define origin's location



WHAT'S NEW 2025 | ASSEMBLIES

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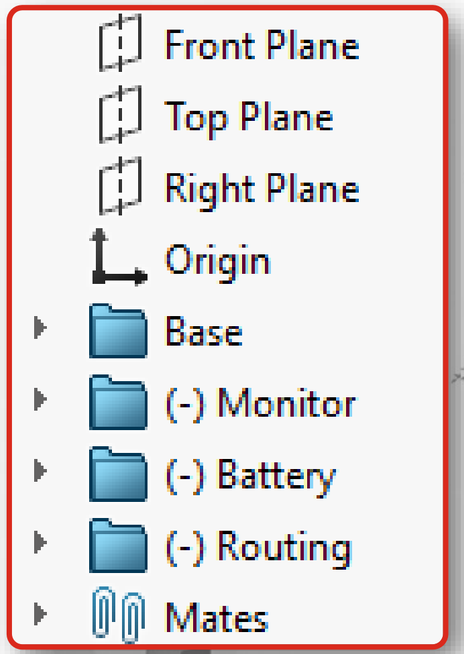
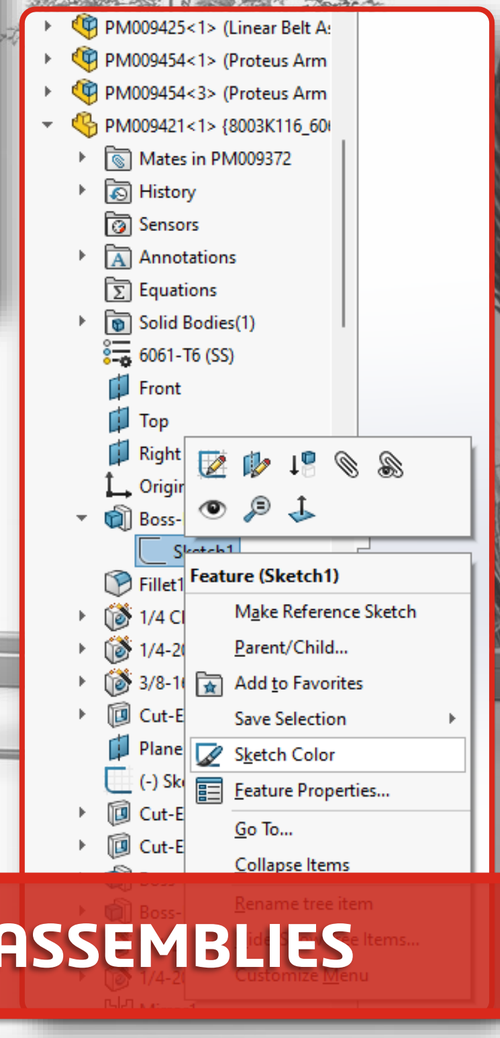
Underconstrained Folder Indicator (2024 FD01)

- Components and subassemblies contained within a folder will now indicate if anything is underconstrained with a (-) symbol



Sketch Color at Assembly Level

- Users can now define sketch colors while working in assembly mode without having to edit the part containing the sketch



WHAT'S NEW 2025 | ASSEMBLIES

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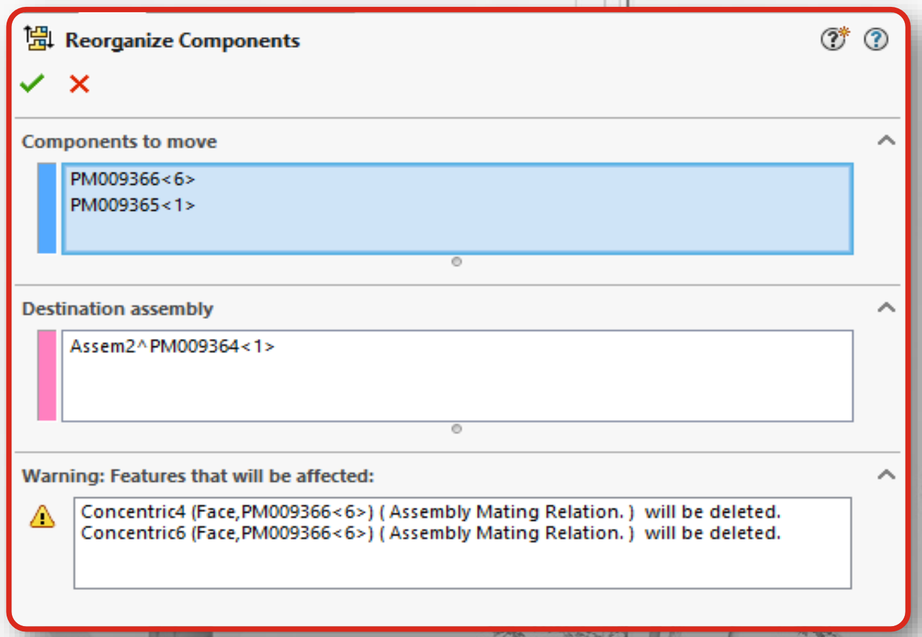
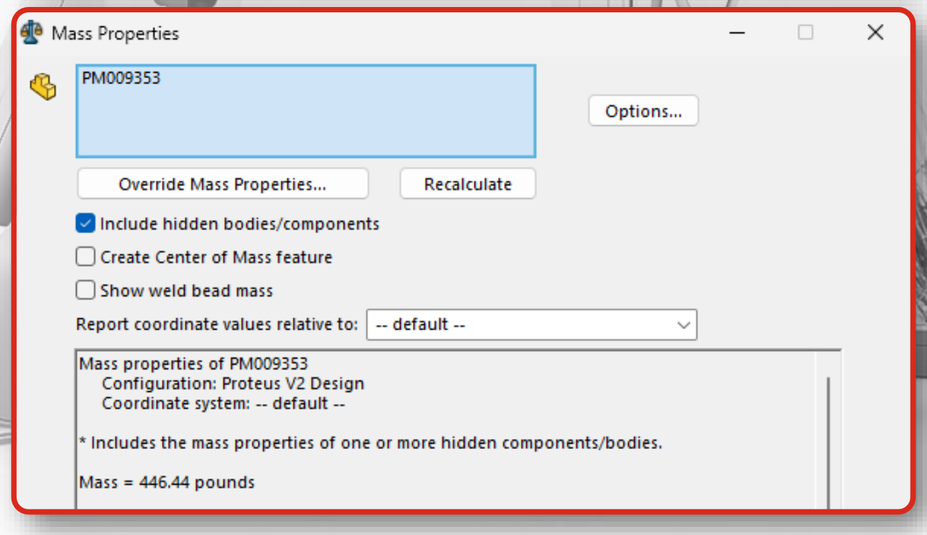
Reorganize Component Property Manager

- Reorganization of components in assemblies has a new user interface
- Helps with reorganization of components with extended assembly tree



Assembly Mass Property Performance

- Speed up the calculation of mass properties for assemblies by utilizing previously calculated values for parts and bodies

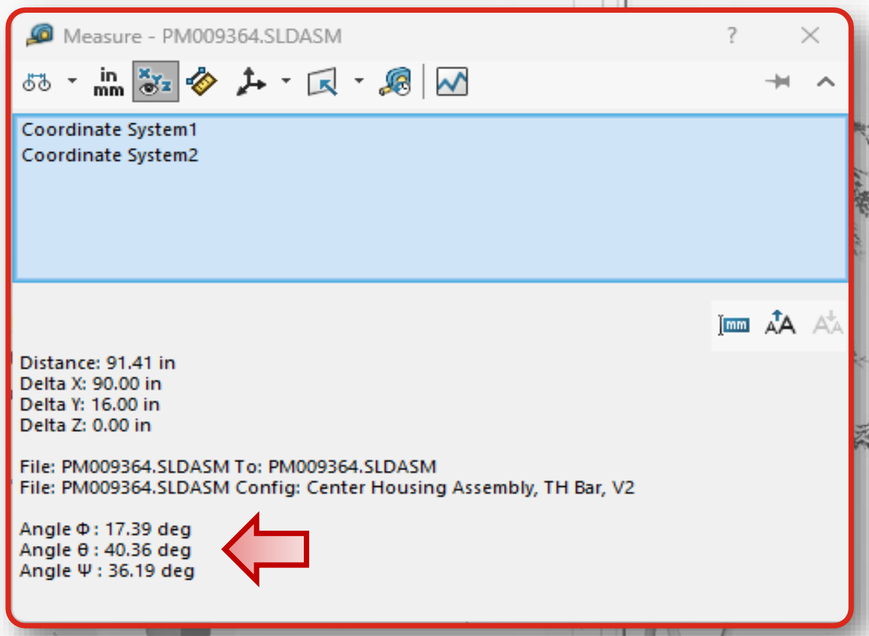


WHAT'S NEW 2025 | ASSEMBLIES

SOLIDWORKS

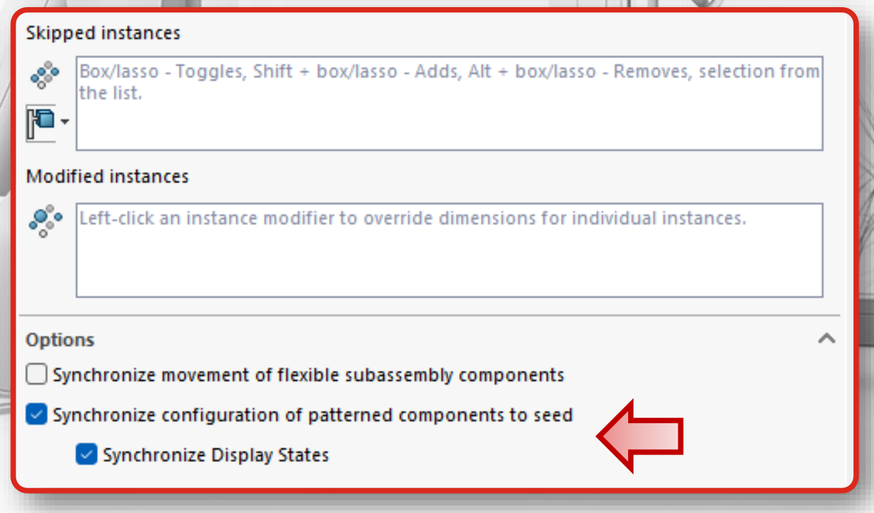
Measure Angular Rotation Between Coordinate Systems

- Measure Tool allows for angular rotation between two coordinate systems
  - Parallel angles appear as zero or 360 degrees
  - Perpendicular angles appear as 90 or 270 degree



Seed Pattern Display State

- Link the Display State of the patterned components to the patterned seed component
- Component Properties to include ‘Reference Display State’ option
  - Use same Display State as pattern seed
  - Use named Display State



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Reload for drawings (2024 FD02)

- Revert an open drawing back to the version last saved on the disk with a single click

Surface Finish Symbol

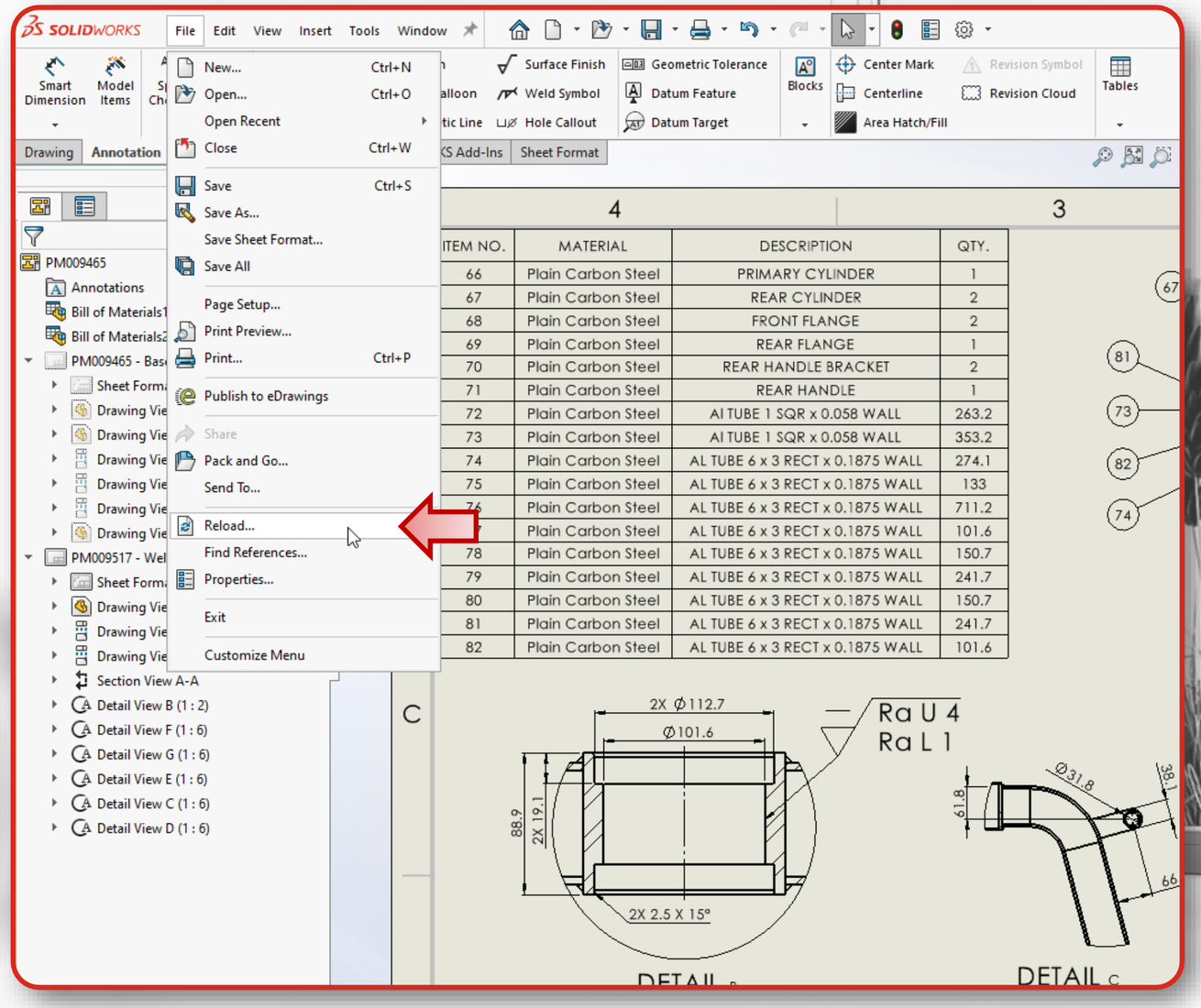
- Now in compliance with the updated ISO standard (ISO 21920)

Export Views as Blocks (2024 FD02)

- When exporting DXF/DWG, there is a new option to export drawing views as blocks for easier use in 2D applications

BOM Quantity Override

- For detailed cut lists in BOMs, there is now an option to use the specified BOM quantity in weldment properties



WHAT'S NEW 2025 | DRAWINGS

SOLIDWORKS

MBD is now Add-In

- MBD is now an add-in
  - **licenses can be floated between users**

Dimensions from Features

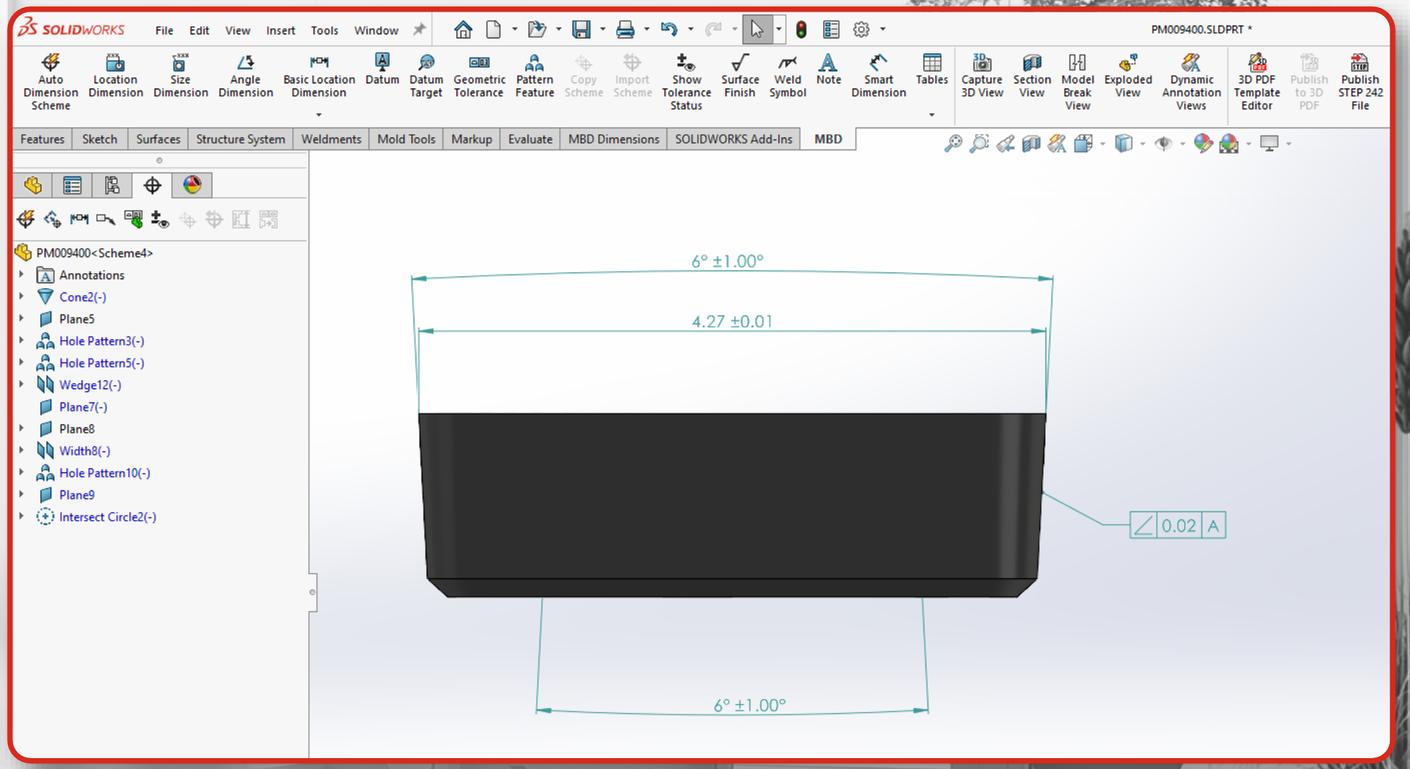
- Ability to create DimXpert dimensions from sketch and feature dimensions

Dimension Drafted Features

- Ability to add size and angle dimensions together for drafted features via ‘wedge’

Step 242 Export Controls

- Two new settings designed to help with downstream consumption of exported Step 242 files



WHAT’S NEW 2025 | MBD

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Quick Tours (2024 FD02)

- Quickly learn the 3DEXPERIENCE concepts

SOLIDWORKS PDM (2024 FD03)

- Choose to use your existing PDM with SOLIDWORKS Connected

3DSwym Integration (2024 FD03)

- Chat and Collaborate right from the SOLIDWORKS Taskpane

Bookmark Editor (2024 FD02)

- Access your design data, regardless of where you are on your dashboard

Update Notification (2024 FD02)

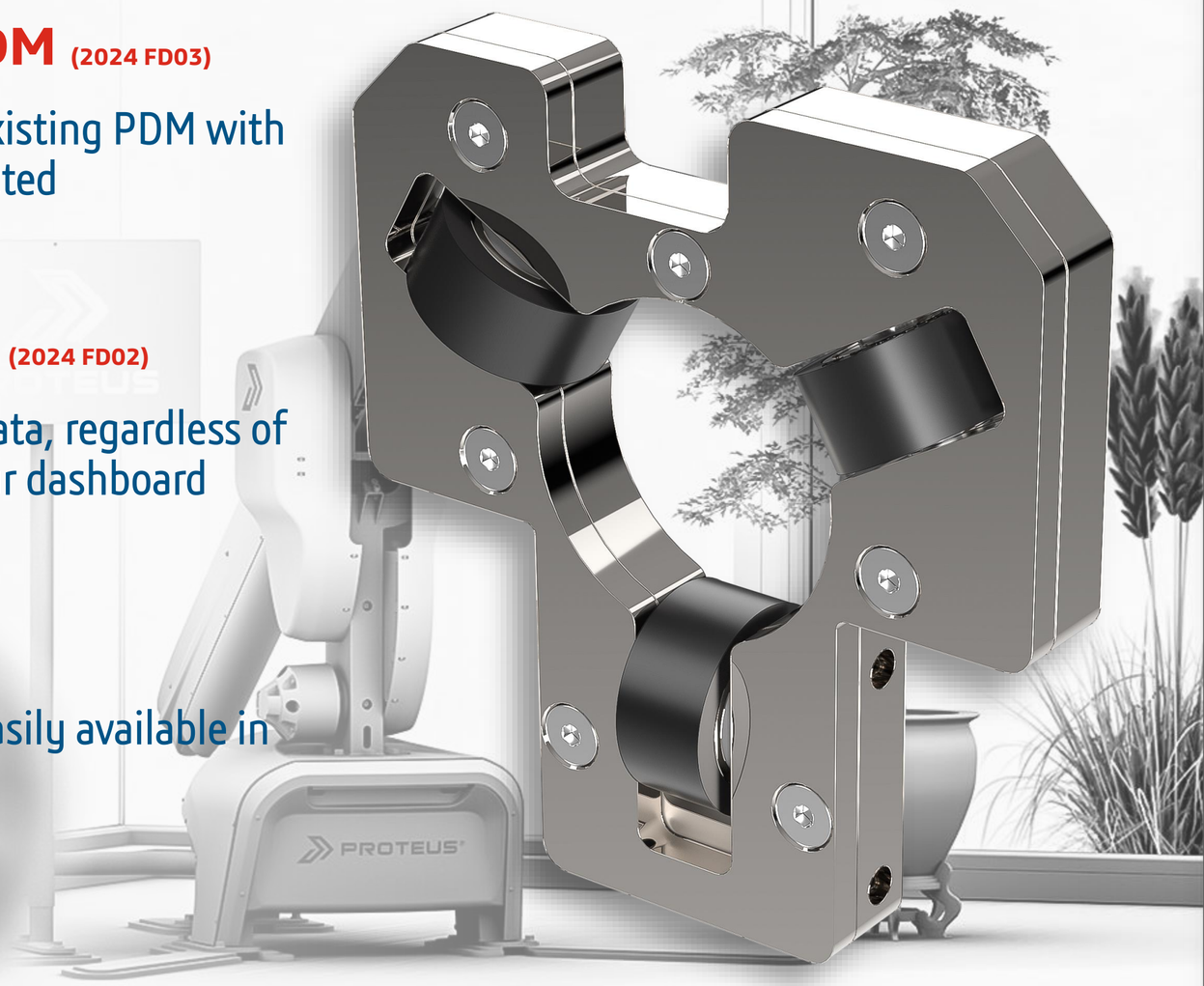
- Ensure you're always working with the latest design

History (2024 FD03)

- Robust traceability easily available in the user interface

Drawing Approval Stamps (2024 FD03)

- Automatically fill out drawing approvals based on defined workflows



WHAT'S NEW 2025 | COLLABORATION

SOLIDWORKS

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SOLIDWORKS Cloud

SOLIDWORKS

API Access

- API access to Visualize is now enabled allowing for customized access to the rendering process

Fast Mode & Boost

- Fast Render Mode and Boost have been modernized with improvements in compatibility and performance

Faded Floor

- Scene floors can be set to faded to provide bounce lighting only. Perfect for compositing and isolating renders

glTF Export

- Greater compatibility with industry-standard 3D formats such as glTF
- Improved visual consistency in all cases

WHAT'S NEW 2025 | VISUALIZE

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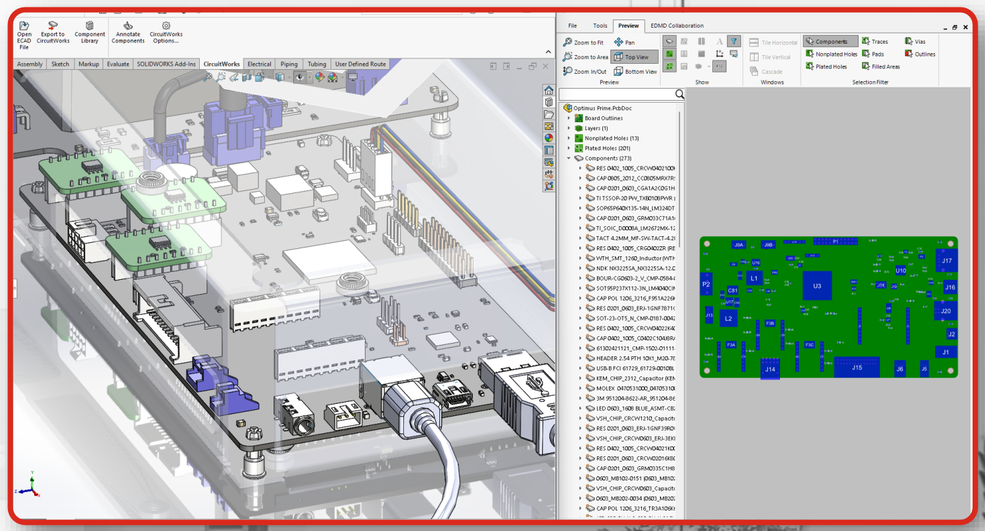
SOLIDWORKS

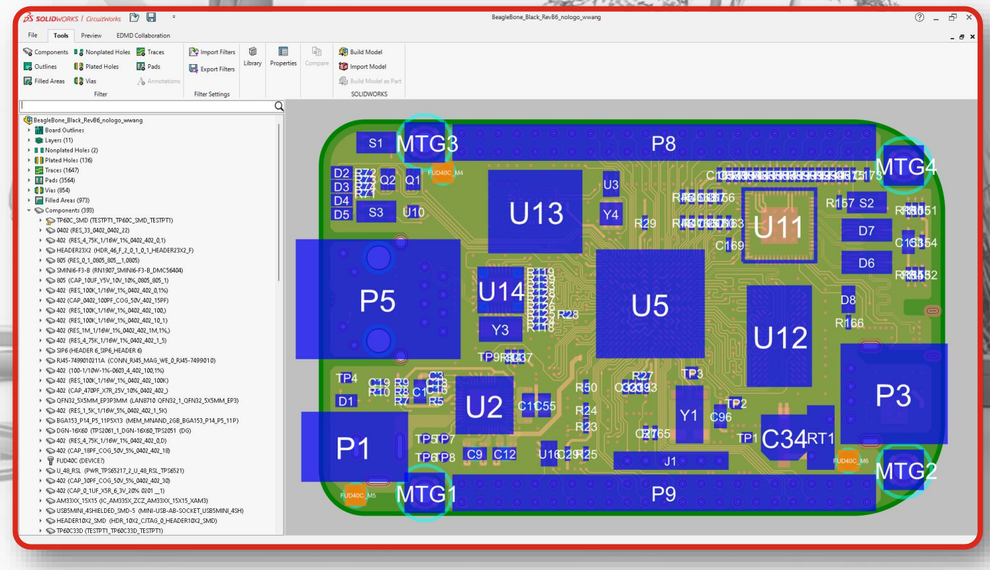
CircuitWorks in SOLIDWORKS Standard (2024 SP02)

- CircuitWorks is available in all versions of SOLIDWORKS, including SOLIDWORKS Standard
- Installing SW2024 SP02 or higher from Installation Manager includes CircuitWorks by default



CircuitWorks UI

- The Quick Access toolbar, Command Manager, and the CircuitWorks tree look and work similarly to those in SOLIDWORKS
- Colors and styles are now completely consistent
- CircuitWorks scales to higher DPI

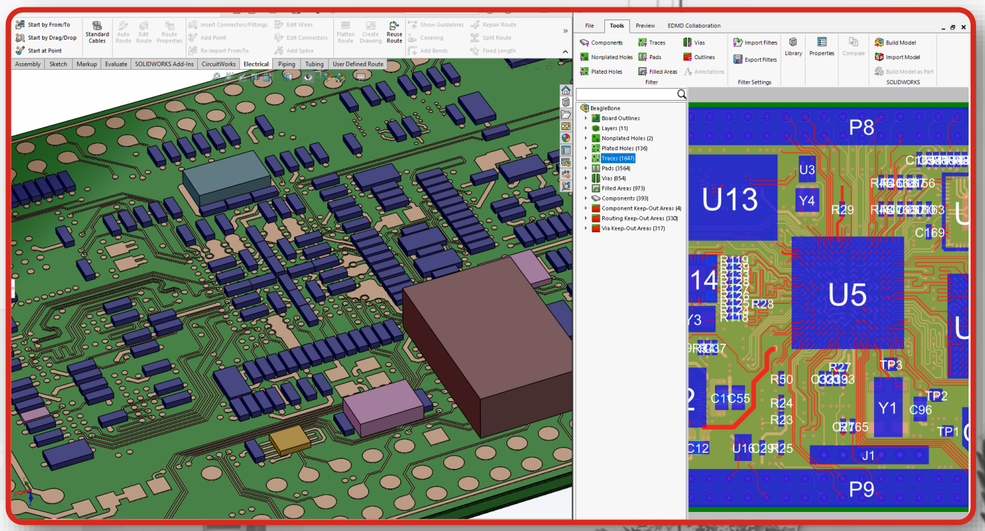


WHAT'S NEW 2025 | CIRCUITWORKS

SOLIDWORKS

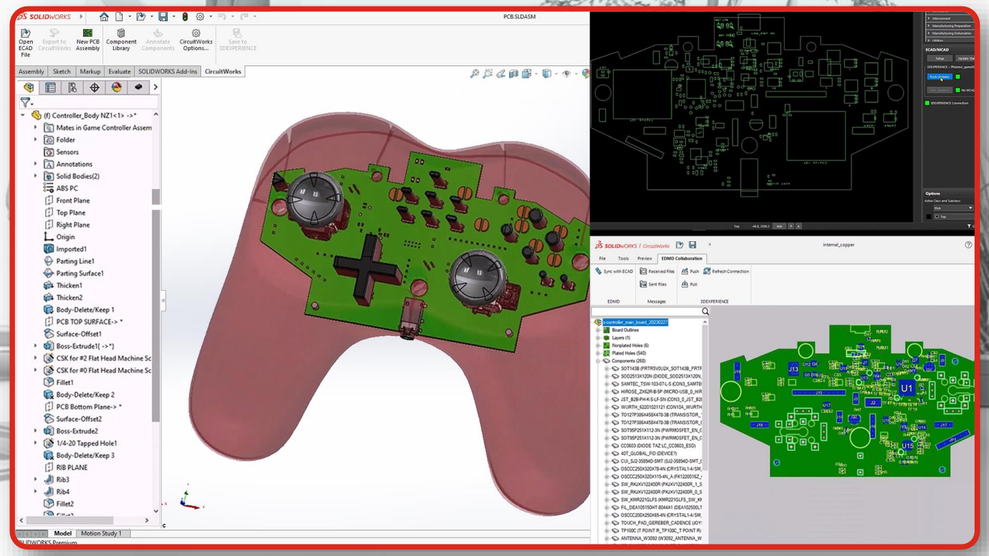
Full Copper Trace Data (IDX 3) (2024 SP02)

- Copper pathways (traces) originate from IDX 3 files for both internal and external board layers
- Using ‘Build model’, the same copper information will be modeled as swept surfaces and applied to proper board layers in SOLIDWORKS
- Accurate materials stack-up in the PCB



ECAD-MCAD with IDX (2024 SP01, SP02, 2025)

- Support various board outline and cutout changes on MCAD side and corresponding responses from ECAD side (2024 SP02)
- Add, change and delete rectangular and slot holes from either ECAD or MCAD side (2024 SP01)
- Accomplished through baseline and incremental IDX 3 files

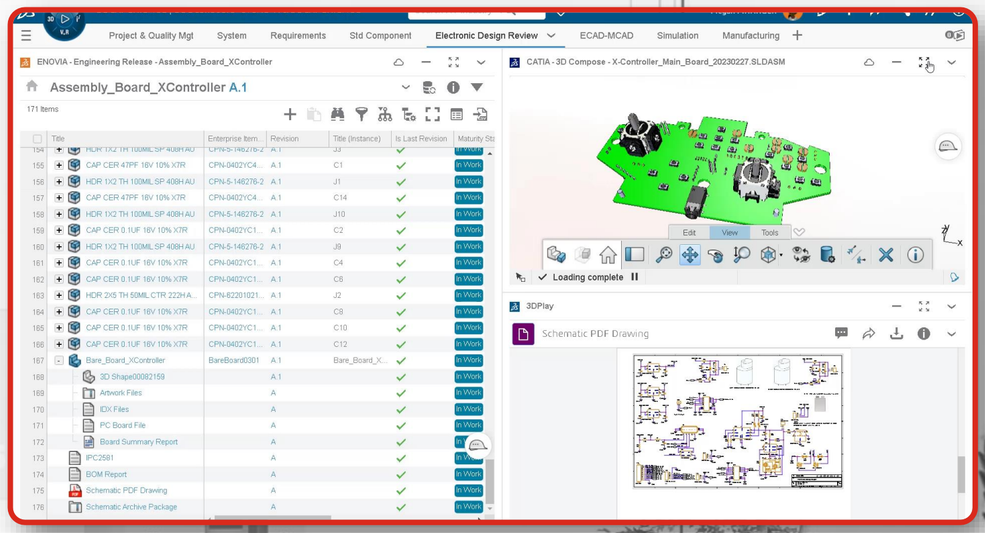


WHAT’S NEW 2025 | CIRCUITWORKS

SOLIDWORKS

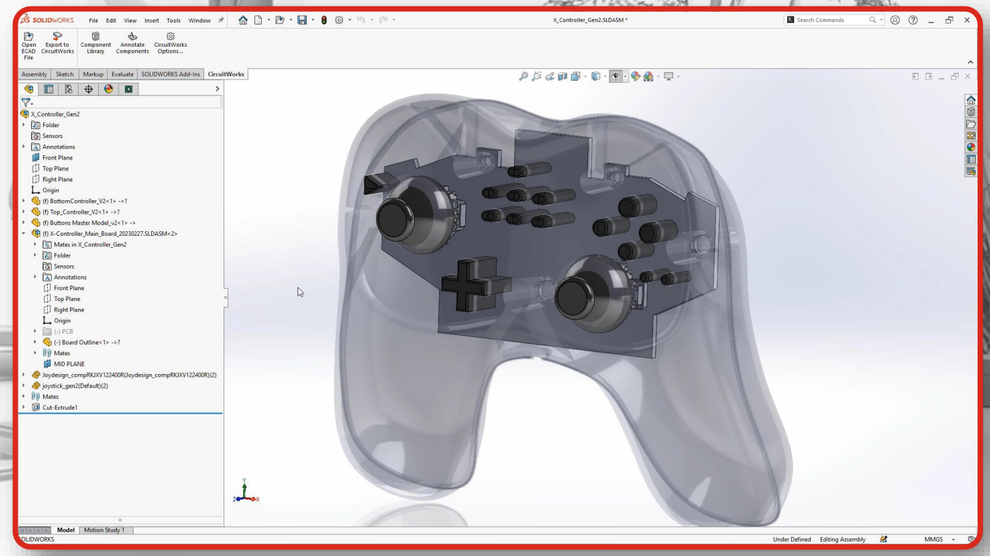
3DEXPERIENCE Component Library with Cadence

- Library synchronization between CircuitWorks and Cadence on the 3DEXPERIENCE platform
- Use the same components as shared by Cadence
- SOLIDWORKS user is able to associate CircuitWorks library when connected to platform



3DEXPERIENCE Platform-Based Collaboration with Cadence (2024 SP01)

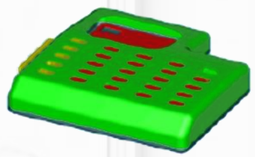
- PCB data is pushed to and pulled from 3DEXPERIENCE using Prostep EDMD IDX 3 format through the 3DEXPERIENCE Collaborative Tasks
- Tasks are assigned to the ECAD engineer. If you push a change or response file, the software prepopulates the Collaborator or you can change the name



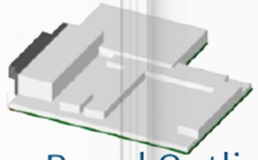
WHAT'S NEW 2025 | CIRCUITWORKS

SOLIDWORKS

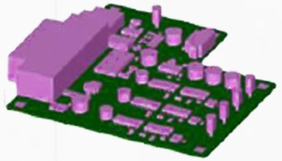
ECAD-MCAD Collaborative Workflow



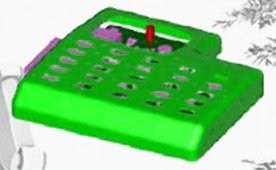
Case Design



Board Outline, Mechanical Constraints, and key components placement



Create 3D Board



Interference Checking

Final Assembly

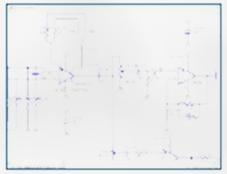
SOLIDWORKS (MCAD)

1 3 5 7 9

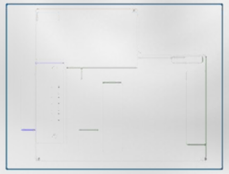
cadence (ECAD)

0 2 4 6 8

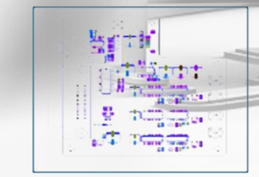
Schematic



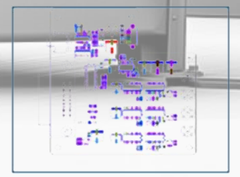
Board Outline



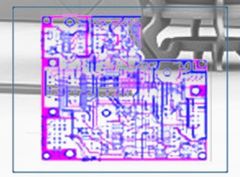
Placement



Revise Placement



Route



WHAT'S NEW 2025 | CIRCUITWORKS

SOLIDWORKS

Upgrade from IDF to IDX

- IDF (Intermediate Data Format) and IDX (Incremental Design Exchange) are standards for communication between ECAD and MCAD design software tools
- IDX is a modern evolution of the old IDF standard
- IDX supports
  - More features
  - Design history and notes
  - Partial changes instead of all-or-nothing

Object	IDX	IDF
Incremental Changes	x	
Accept / Reject Changes	x	
Comments on Changes/File level	x	
Change History Tracking	x	
Board Outline	x	x
Stackup Structure	x	
Multiple Stackups	x	
Board Cut-outs	x	x
Cavities	x	
User Defined outlines/areas	x	x
Components (Loc, orientation)	x	x
Component Height (multiple shapes)	x	
Holes (Circular)	x	x
Holes (non-Circular)	x	
Route Keep-in/Keep-out	x	x
Place Keep-in/Keep-out	x	x
Place Room Region	x	x
Via Keep-out	x	x
Voids in Keep-outs	x	
Traces and Pads on all layers (One Direction)	x	
Copper Shapes (Bi-directional)	x	
Vias (Through)	x	x
Vias (Blind/Buried)	x	
Embedded Components	x	
Pin 1 Location	x	
Rigid/Flex Support	x	
Bend Area/Bend Line	x	
Object Ownership	x	x
Refdes resequencing support	x	

Parts

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SOLIDWORKS Cloud

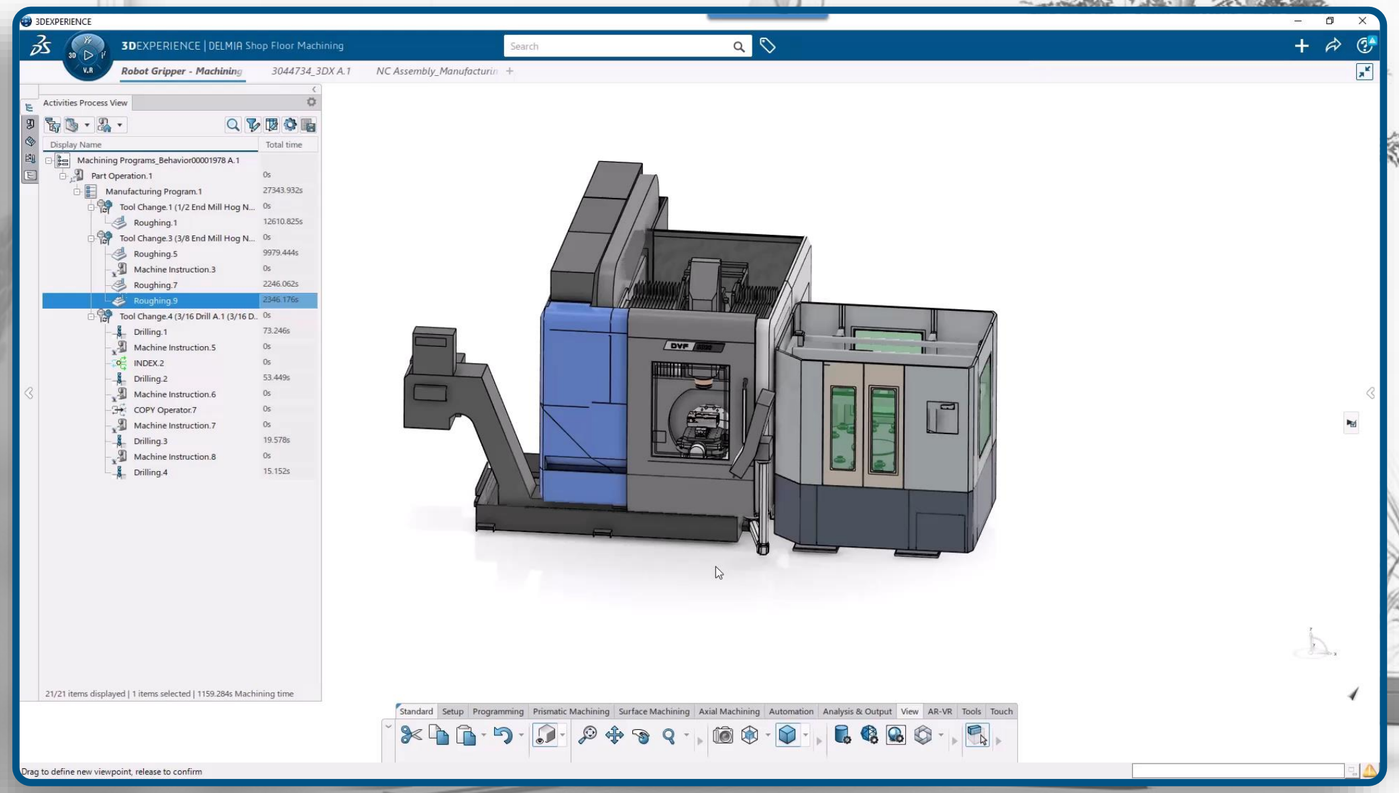
SOLIDWORKS

NEW! Shop Floor Programmer

Now included for all **3D**EXPERIENCE SOLIDWORKS and SOLIDWORKS with Cloud Services users

Key Capabilities

- 3 + 2 axis milling
- Full machine kinematics
- Manufacturability checker
- Nesting
- Laster, waterjet, plasma programming
- Wire EDM



WHAT'S NEW 2025 | Shop Floor Programmer

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SOLIDWORKS

Extrude/Revolve Primitive

- Create custom subdivision primitives starting from 2D sketches

Modifier Robot (FD01)

- Make topology changes quicker by accessing commands directly on selection

Align to External Geometry (FD01)

- Shape freeform mesh relative to geometry outside the subdivision environment

Command Search (FD01)

- Quickly find and run commands across all xApps without having to access the action bar

WHAT'S NEW 2025 | xShape

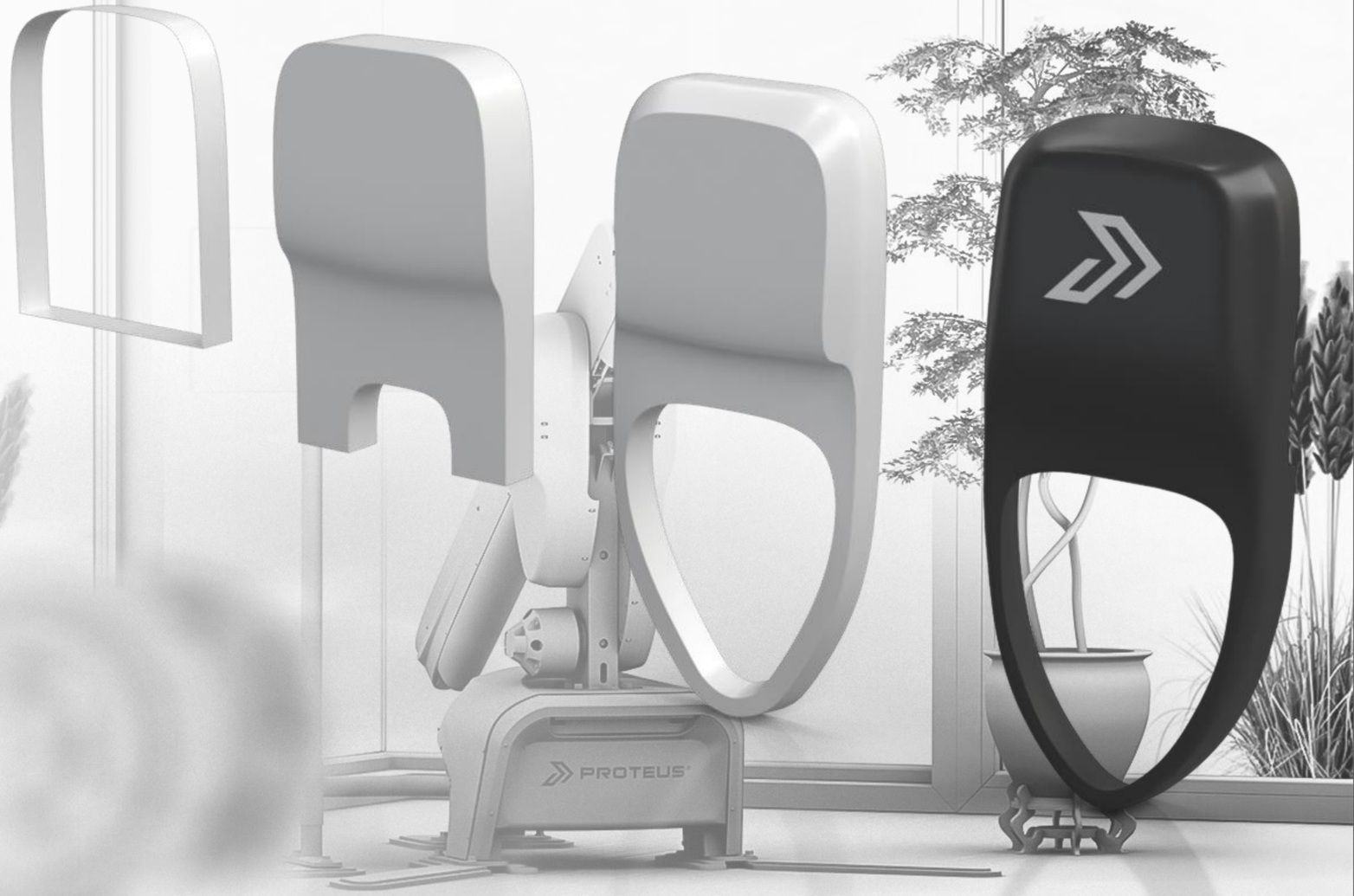
SOLIDWORKS

Dynamic Mesh Inspection (FD03)

- Identify intersecting elements and move, scale, or rotate to fix them while the command is active

Merge Surfaces

- Combine two subdivision surfaces to a single subdivision object



WHAT'S NEW 2025 | xShape

SOLIDWORKS

DFM Helper (2024 FD03)

- Plan for manufacturing directly in the modeling environment to avoid downstream production issues

Inserting Environments (FD01)

- Visualize products in a life-like setting while designing them

External References (FD01)

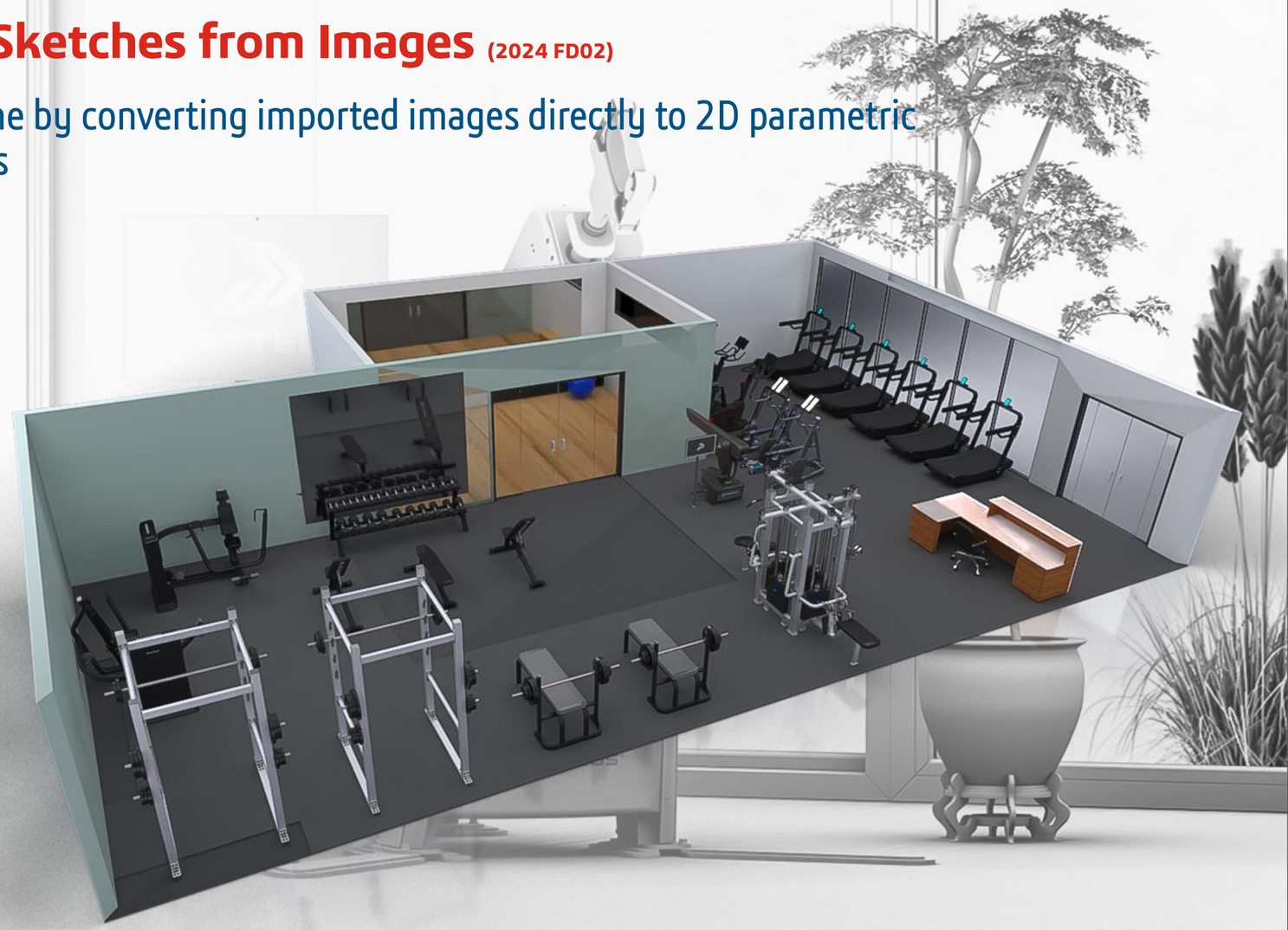
- Status icons identify broken references in the context of an assembly

Select Sketches from Other Physical Products (FD02)

- Avoid recreating sketches for features in new parts
- Keep measurements consistent across assemblies

Create Sketches from Images (2024 FD02)

- Save time by converting imported images directly to 2D parametric sketches



WHAT'S NEW 2025 | xDesign

SOLIDWORKS

Create Drawing Views

- Create views without pre-existing 2D/3D views from the MBD environment

Create Annotations in Drawing Environment

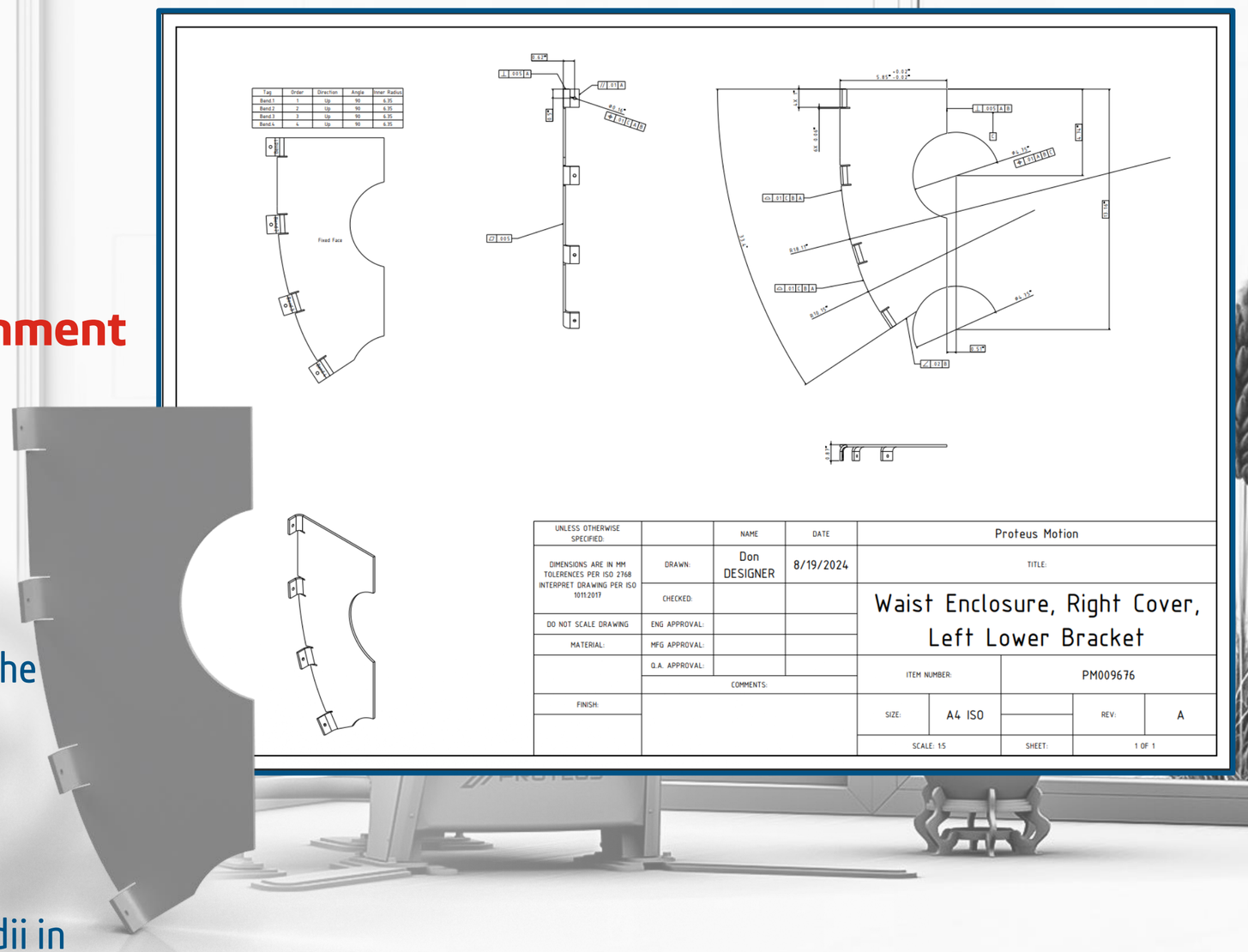
- Define drawings with annotations that automatically populate associated 3D views

Folded & Flat Patterns in Sheet (FD02)

- See multiple states of sheet metal components on the same drawing sheet

Bend Tables (FD02)

- Display bends, tags, directions, angles and inner radii in 3D views and drawing sheets



WHAT'S NEW 2025 | xDrawing

SOLIDWORKS

Parts

Sheet Metal & Weldments

Assemblies

Drawings & MBD

Collaboration

Rendering

ECAD – MCAD

Manufacturing

SOLIDWORKS Cloud

SOLIDWORKS

SOLIDWORKS Design

BEYOND 3D

UNIFIED SOLUTIONS

PDM & Manage

Electrical

Simulation

DraftSight

SOLIDWORKS

Command Manager Tab

- Easy access to common commands

Lightweight Mode (2024 FD01)

- Support for common commands such as change state

Check Out Option

- Available in the Get command
- Streamlines overall workflow

Task Pane

- Toolbar redesigned - fully Customizable
- Support for LDR & Detailing Modes

Browse To In New Window

- Easy access to file in Windows Explorer

Computed BOM

- Follows assembly tree order, reducing confusion

WHAT'S NEW 2025 | PDM

SOLIDWORKS

Search Preview (2024 FD02)

- Customize location

eDrawings Preview

- Transitioning to 3D preview is more discoverable

Latest Revision

- New System variable
- Available on Version Tab
- New Get Latest & Get Revision commands

Bill of Material

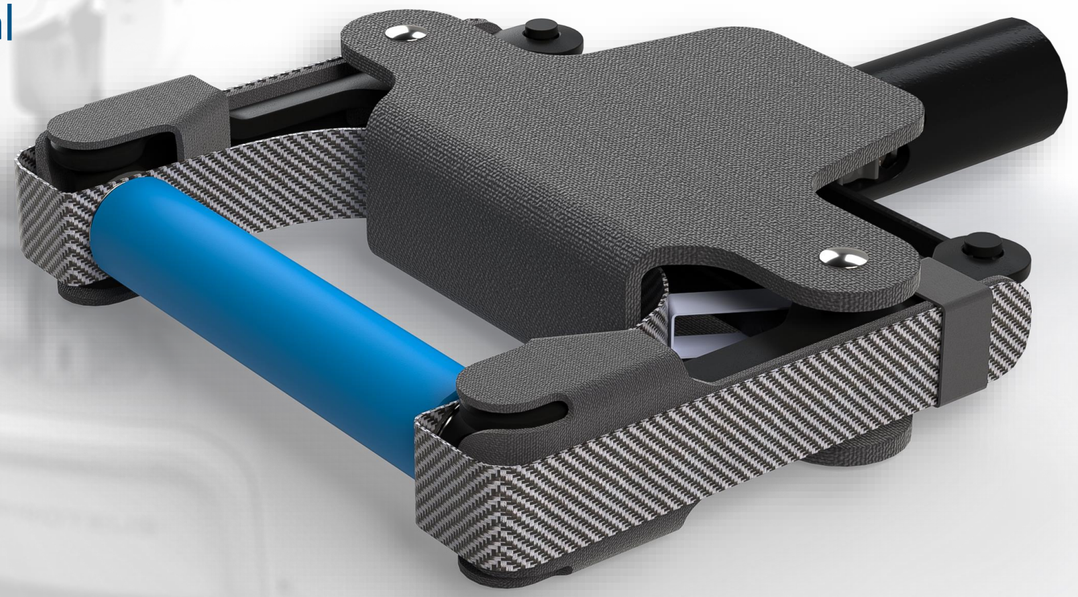
- New “Flattened” option (2024 FD02)
- Supports export with thumbnails

Admin - Logging

- Log in and Log out tracked
- Desktop, Web2, COM API, & Web API

Admin - Default BOM Settings

- Define default view settings for computed Bill of Material

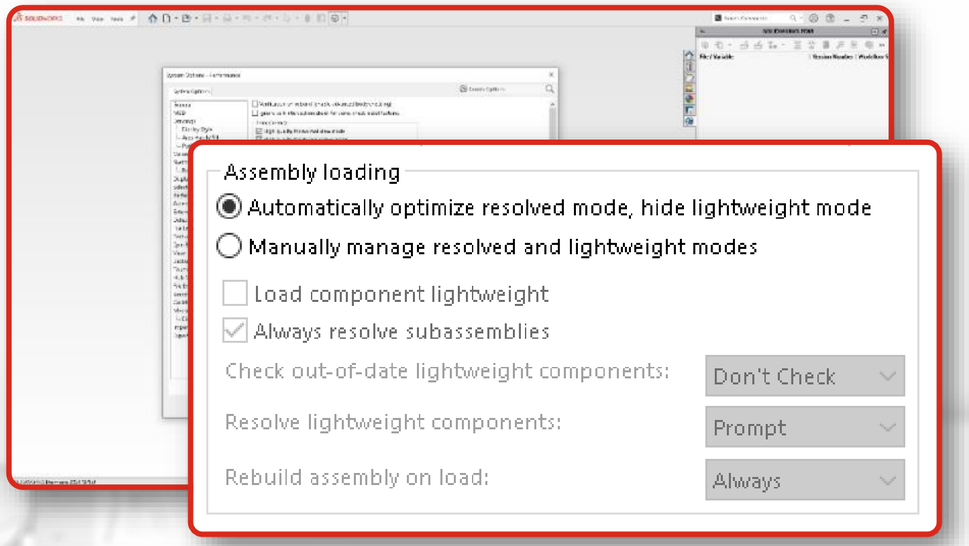


WHAT’S NEW 2025 | PDM

SOLIDWORKS

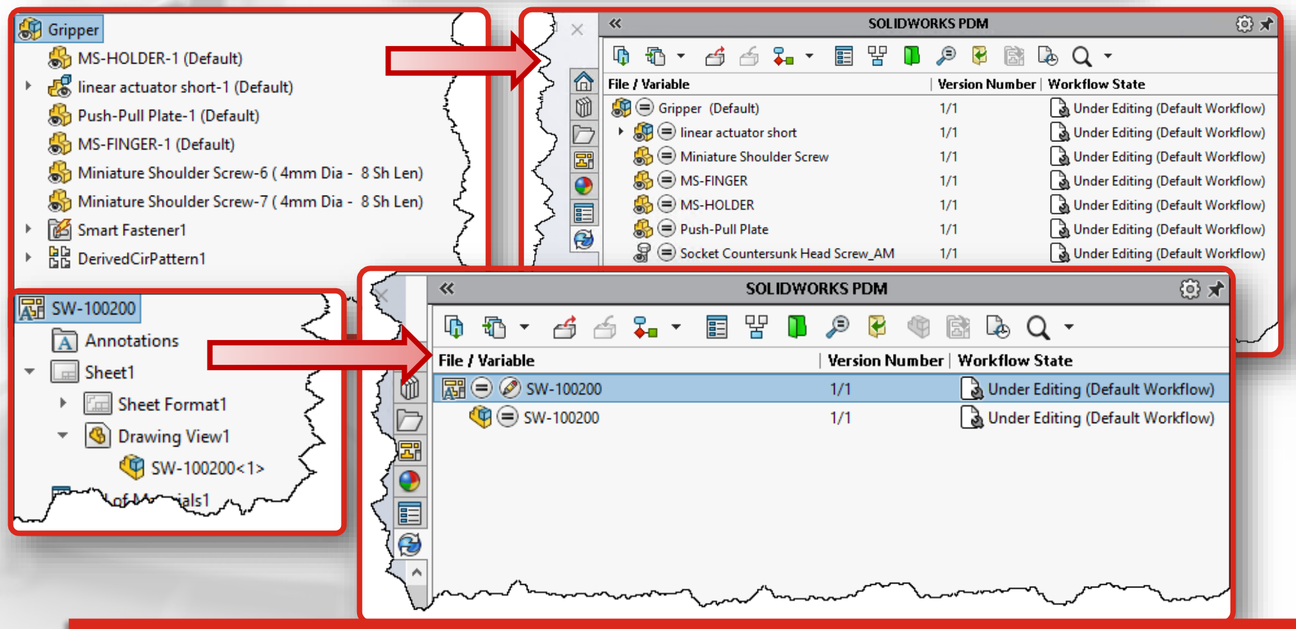
SOLIDWORKS INTEGRATION – Lightweight (2024 FD01)

- Support Assembly Loading Option:
  - Automatically optimize resolved mode, hide lightweight mode



SOLIDWORKS INTEGRATION – LDR & Detailing Mode (2024 FD02)

- Large Design Review
  - Full Component Tree Structure
- Check In Assemblies
  - Detailing Mode
  - Detailing Mode Indicator
  - Matching Tree Structure

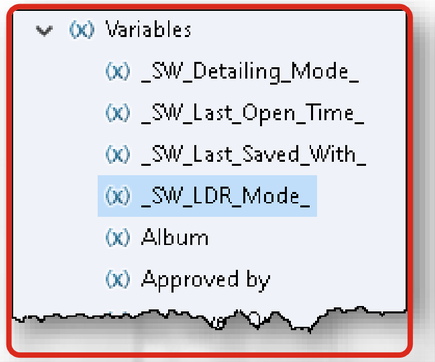


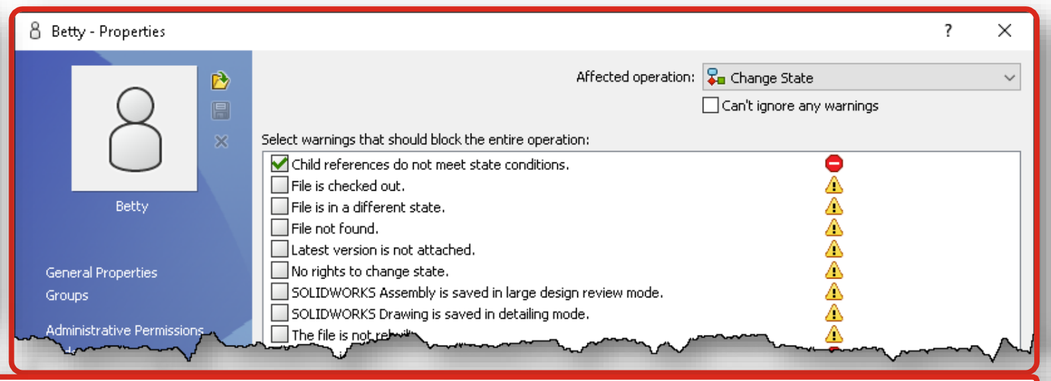
WHAT'S NEW 2025 | PDM

SOLIDWORKS

ADMINISTRATION – Large Design Review

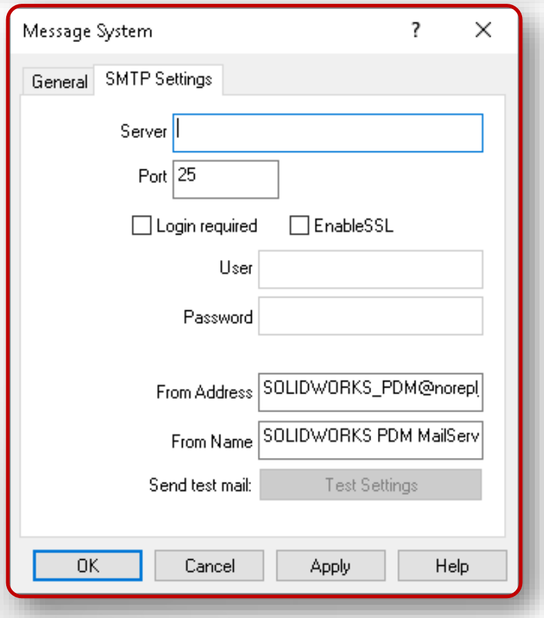
- System variable now available
- Warnings for:
  - Check-In
  - Change State





ADMINISTRATION - Notifications

- Support for SSL/TLS authentication for SMTP message systems including:
  - Microsoft Office 365
  - Gmail SMTP
  - Yahoo

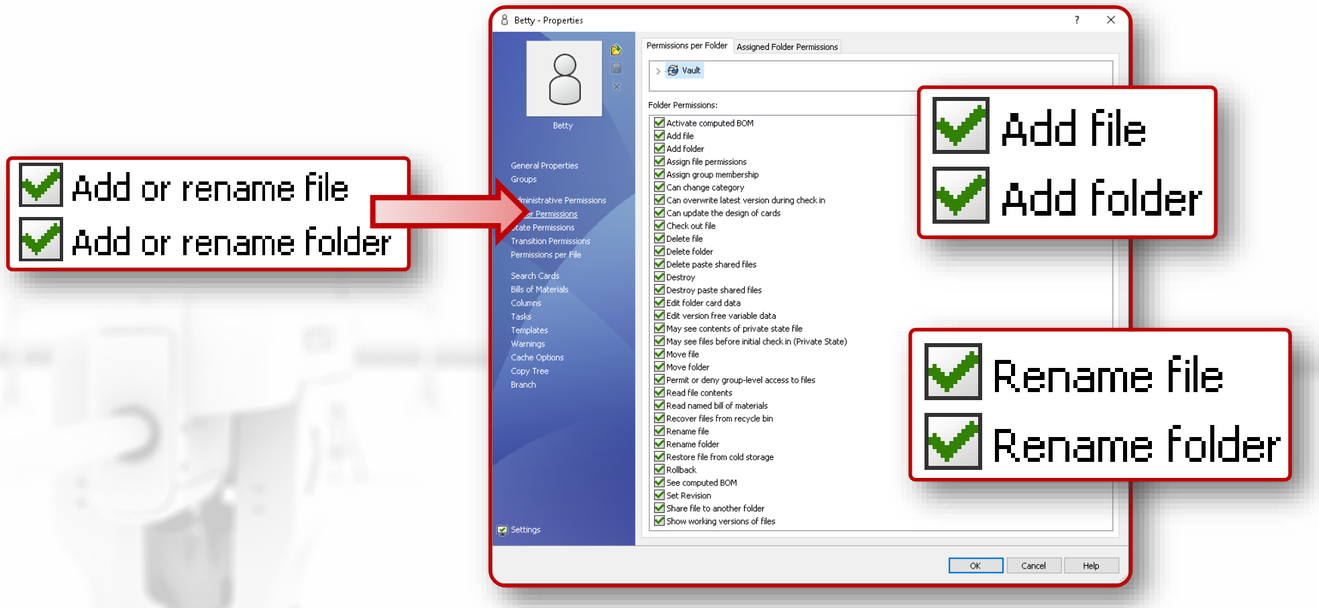


WHAT'S NEW 2025 | PDM

SOLIDWORKS

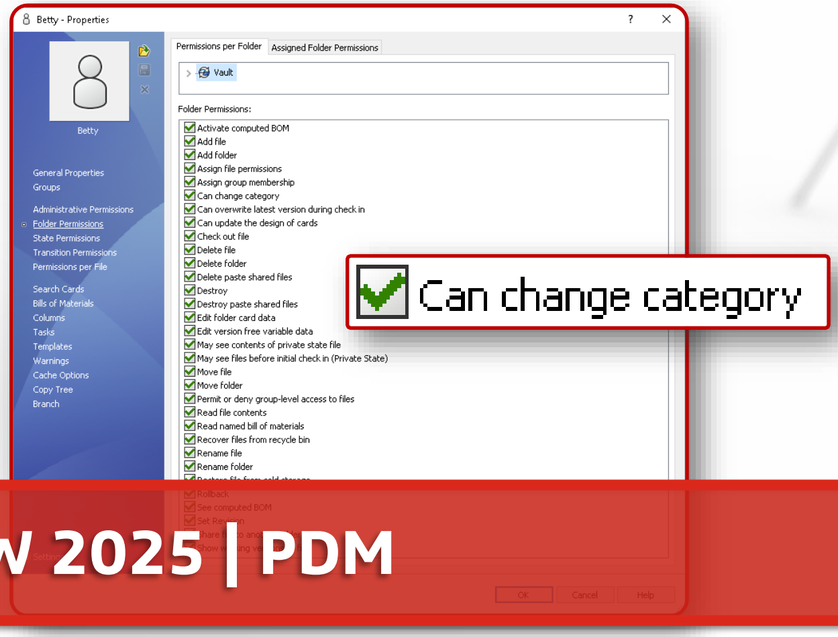
PERMISSIONS – File & Folder

- Separated ‘Add or Rename’ permissions for:
  - Folder Permissions
  - State Permissions



PERMISSIONS - Categories

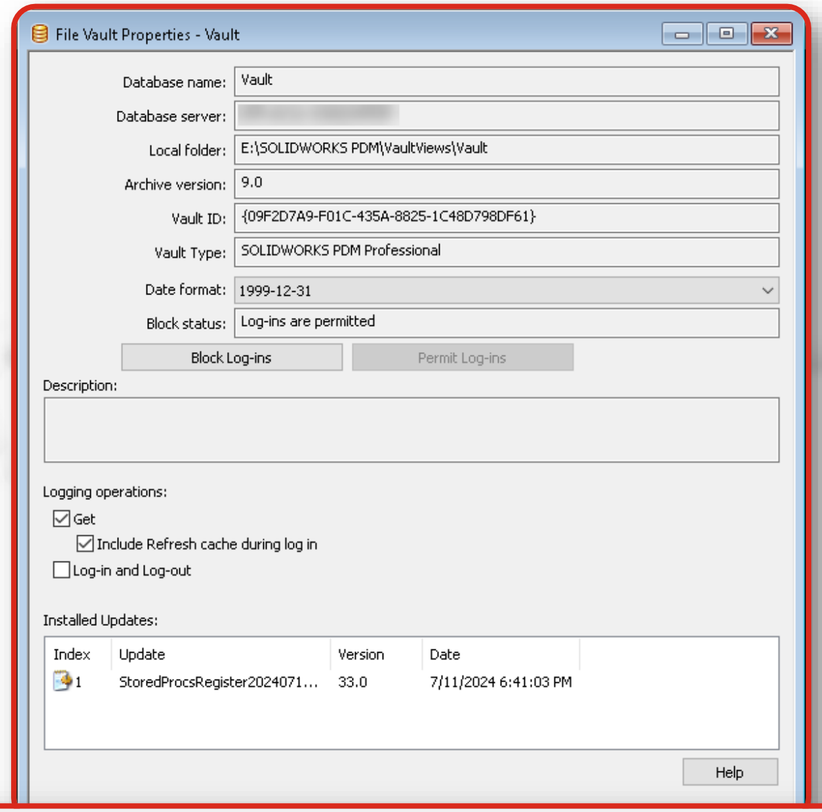
- Now available as a folder permission & state permission

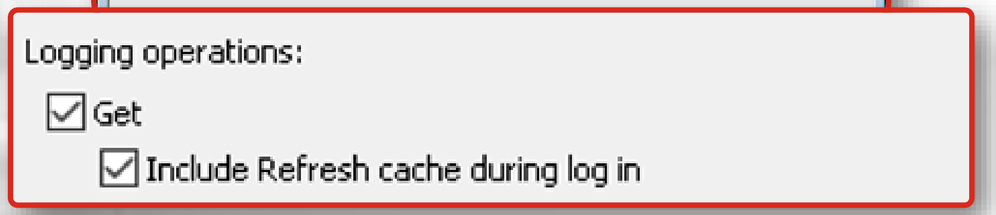


SOLIDWORKS

LOGGING

- Get Log Option: Include Refresh Cache During Log In



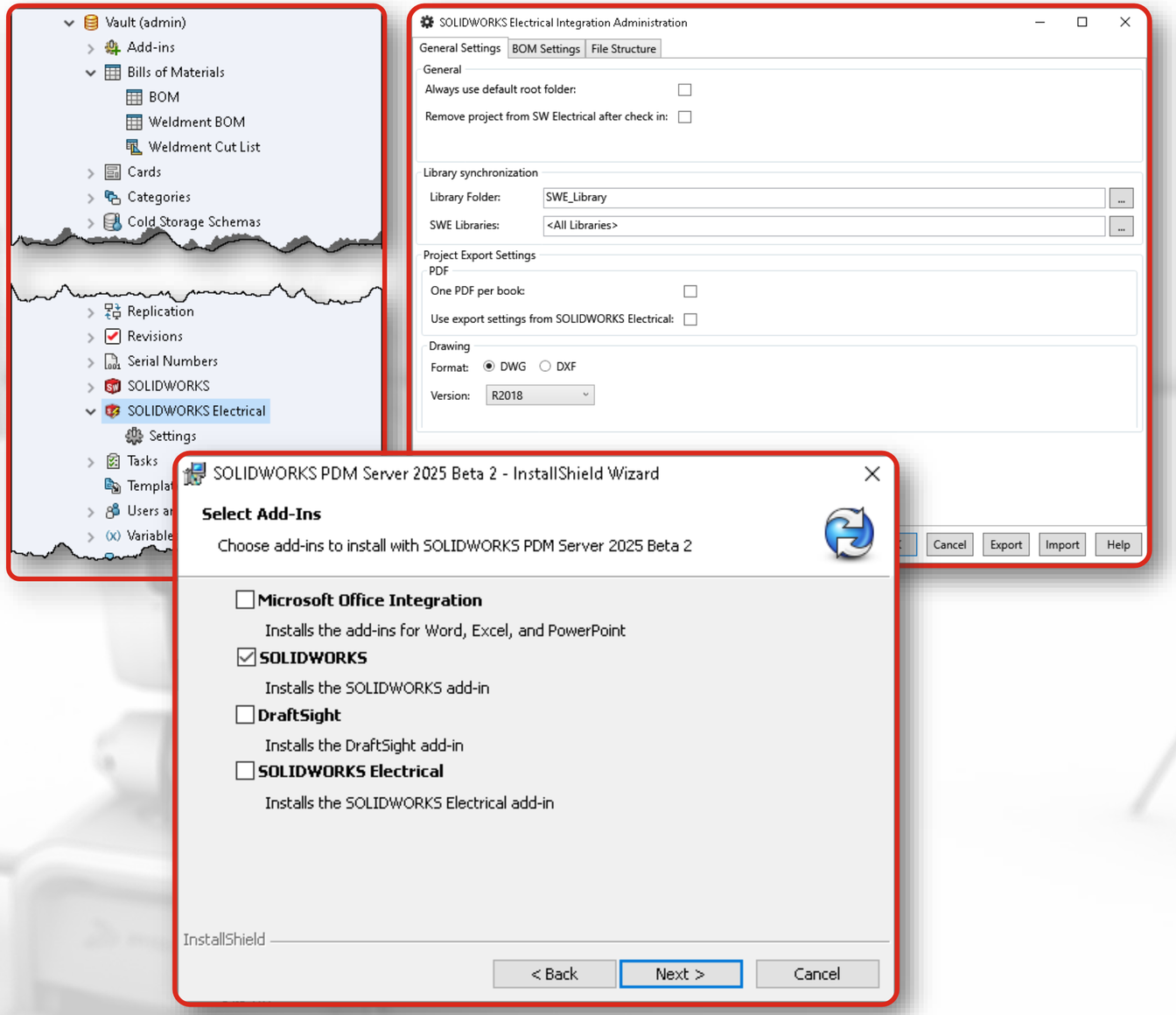


SECURITY

- Updated encryption from MD5 to AES with 128 bit key

CONNECTORS – SOLIDWORKS Electrical

- SOLIDWORKS Electrical in Administration Tool
- SOLIDWORKS PDM Add-In



WHAT'S NEW 2025 | PDM

SOLIDWORKS

PERFORMANCE

Check In

Dataset: 1740 MB, 929 files

	PDM 2024	PDM 2025	Improvement
No latency	228	175	1.30x
~40 ms latency	1032	234	4.41x

Browse Folders in WEB2

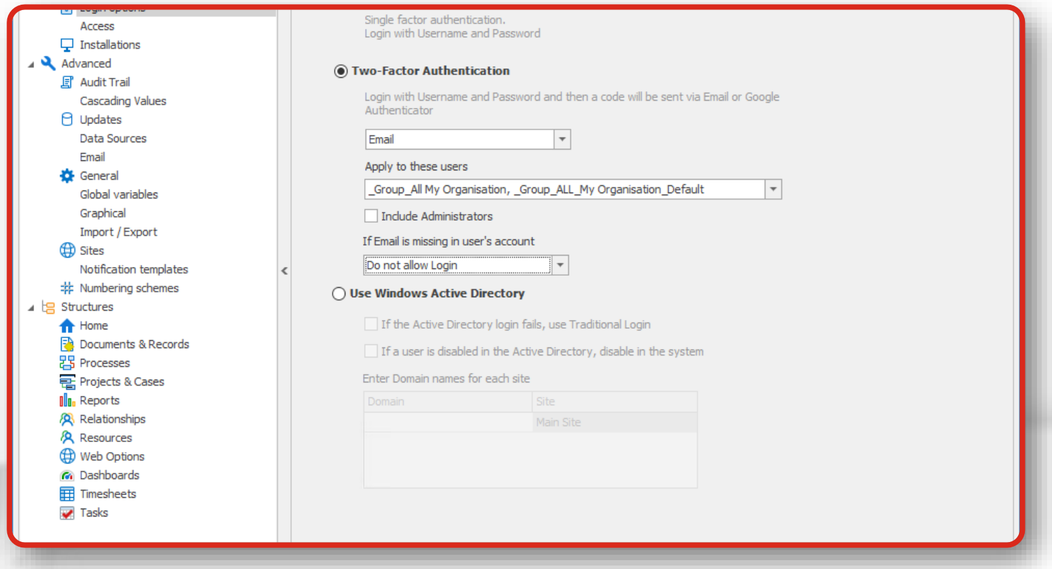
Dataset: 1740 MB, 929 files

	PDM 2023	PDM 2025	Improvement
No latency	54	9	6.00x
~60 ms latency	161	12	13.42x

ADMINISTRATION – Log In Options

Higher security and convenience for users

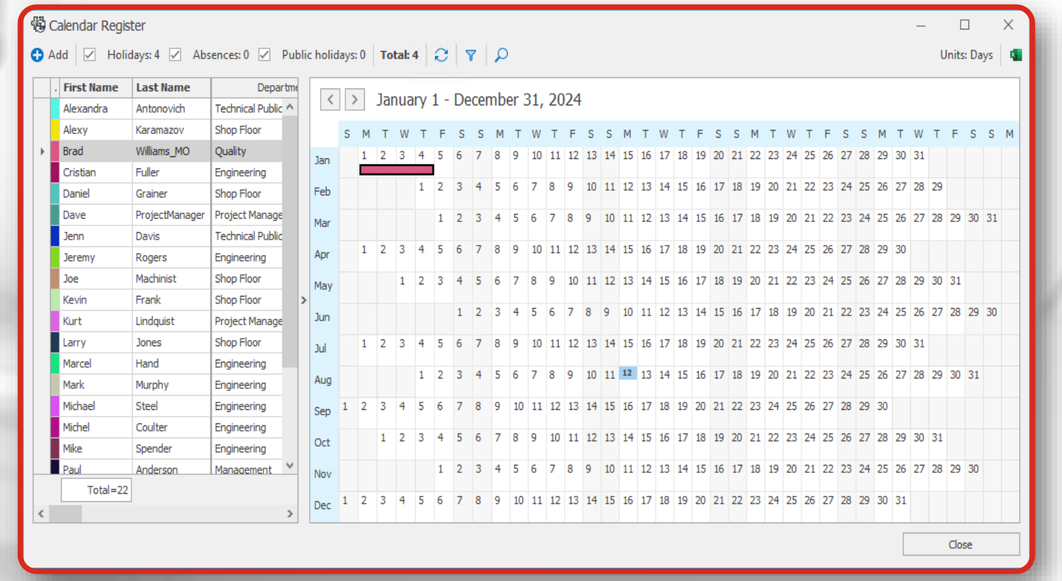
- Block non-Administrators log in
- Password Strength
- 2-Factor authentication
- Active Directory Integration



ADMINISTRATION – Daily Capacity Planning

More granular view of user availability

- Calendar Register (renamed from Holiday Register) is now organized by day
- Capacity planning can be viewed by:
    - Next 7 days, Next 30 days, Months and Weeks



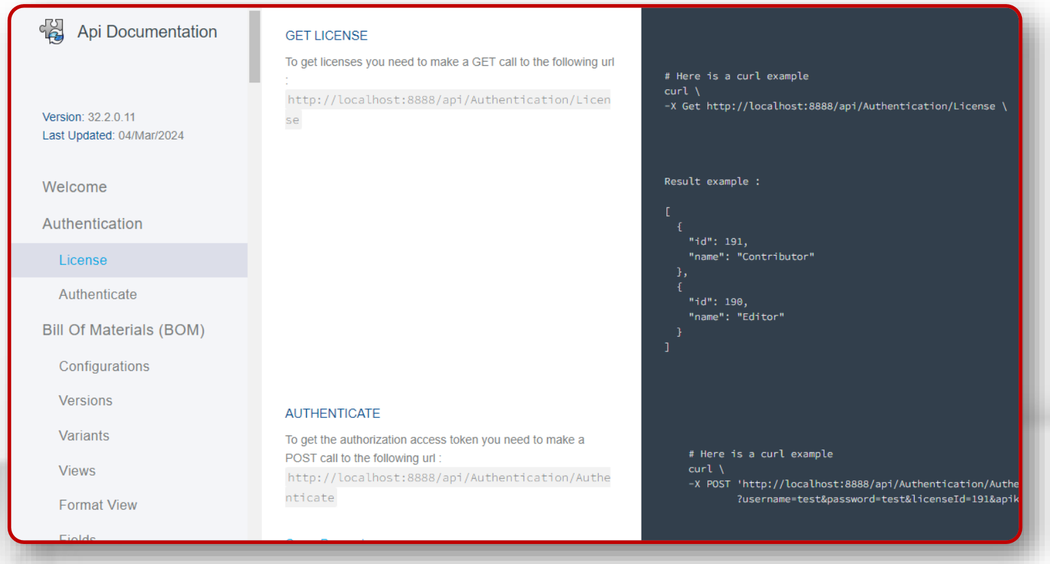
WHAT'S NEW 2025 | MANAGE

SOLIDWORKS

API

Eliminates running SQL queries to get or set information

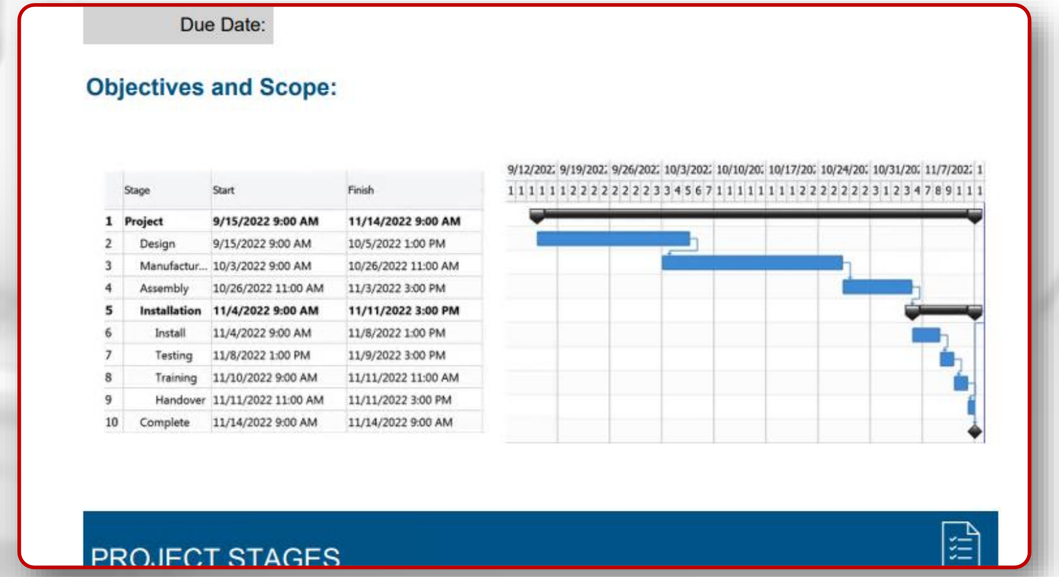
- Web based REST API has been added to the server install
- Enables reading and writing information



REPORTS – Project Gantt Images

Capture more complete project information

- Images for the stage grid (WBS) and Gantt chart can now be added to reports
- Admin control over number of grid columns to include



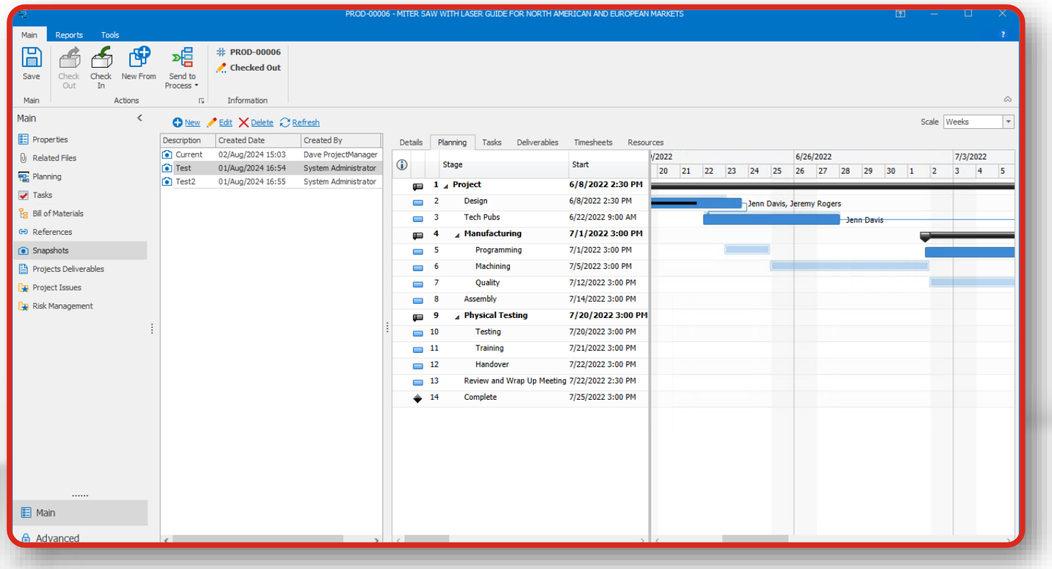
WHAT'S NEW 2025 | MANAGE

SOLIDWORKS

PROJECTS - Snapshots

Easy access to previous project information without the need for reports

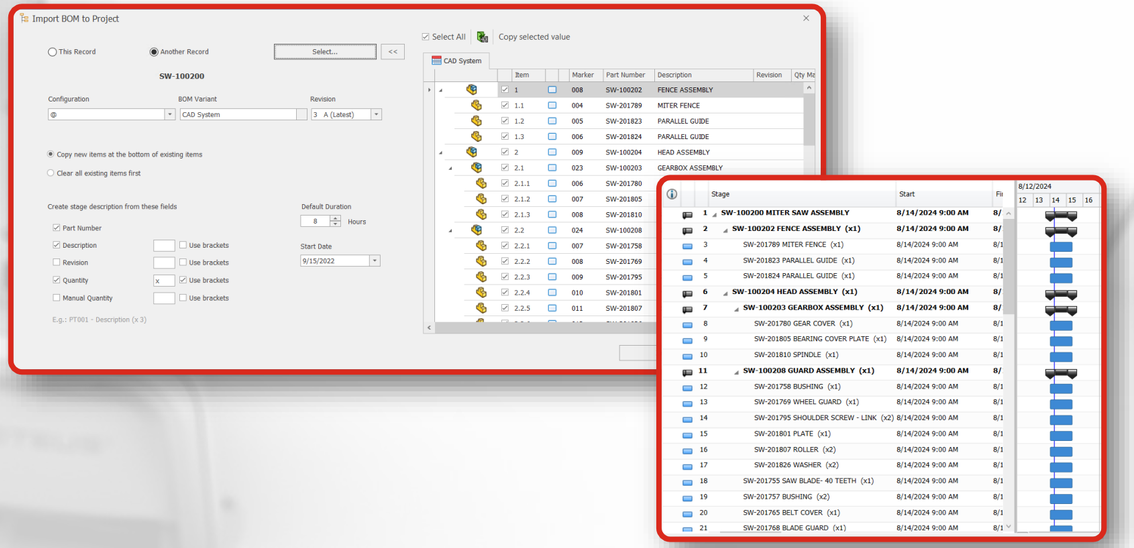
- Capture project information at desired times to create a history of the major changes
- Captures Gantt chart (Planning), tasks, deliverables, timesheets and resources



PROJECTS – Import from BOM

Easily create projects for product manufacturing timeline tracking

- Build project Gantt from an assembly
- End parts become stages and sub-assemblies become summary stages



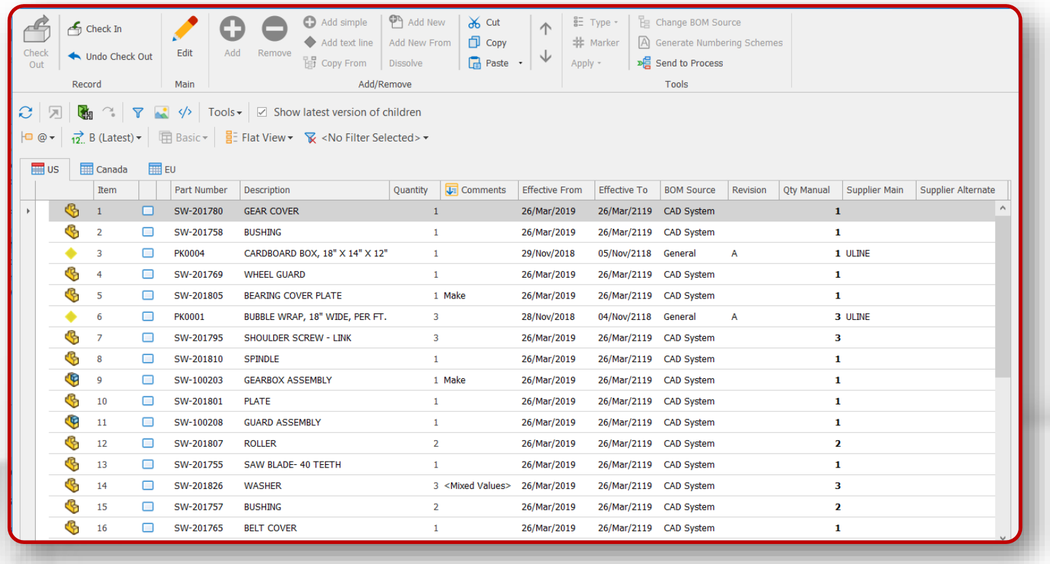
WHAT'S NEW 2025 | MANAGE

SOLIDWORKS

BILL OF MATERIAL - Custom Fields in Flat BOMs

More information when viewing in Flat View

- Custom fields are now displayed in Flat BOM view
- If multiple values exist for the same part number, "<Mixed Values>" will be displayed in the cell

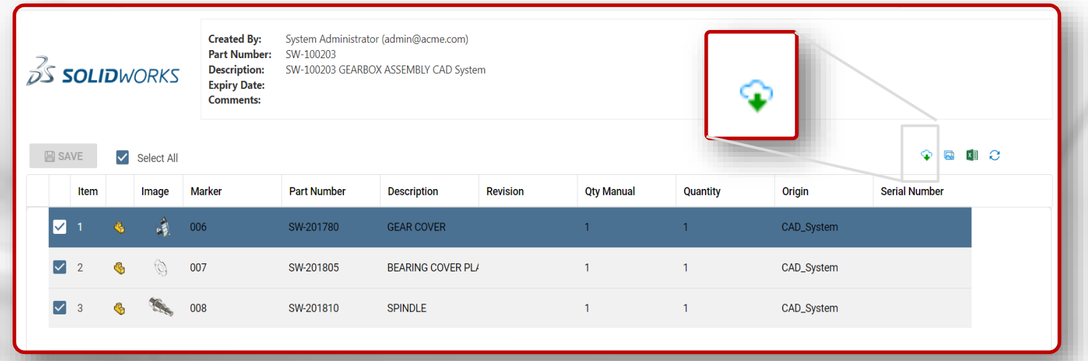


Item		Part Number	Description	Quantity	Comments	Effective From	Effective To	BOM Source	Revision	Qty Manual	Supplier Main	Supplier Alternate
1		SW-201780	GEAR COVER	1		26/Mar/2019	26/Mar/2119	CAD System		1		
2		SW-201758	BUSHING	1		26/Mar/2019	26/Mar/2119	CAD System		1		
3		PK0004	CARDBOARD BOX, 18" X 14" X 12"	1		29/Nov/2018	05/Nov/2118	General	A	1	ULINE	
4		SW-201769	WHEEL GUARD	1		26/Mar/2019	26/Mar/2119	CAD System		1		
5		SW-201805	BEARING COVER PLATE	1	Make	26/Mar/2019	26/Mar/2119	CAD System		1		
6		PK0001	BUBBLE WRAP, 18" WIDE, PER FT.	3		28/Nov/2018	04/Nov/2118	General	A	3	ULINE	
7		SW-201795	SHOULDER SCREW - LINK	3		26/Mar/2019	26/Mar/2119	CAD System		3		
8		SW-201810	SPINDLE	1		26/Mar/2019	26/Mar/2119	CAD System		1		
9		SW-100203	GEARBOX ASSEMBLY	1	Make	26/Mar/2019	26/Mar/2119	CAD System		1		
10		SW-201801	PLATE	1		26/Mar/2019	26/Mar/2119	CAD System		1		
11		SW-100208	GUARD ASSEMBLY	1		26/Mar/2019	26/Mar/2119	CAD System		1		
12		SW-201807	ROLLER	2		26/Mar/2019	26/Mar/2119	CAD System		2		
13		SW-201755	SAW BLADE- 40 TEETH	1		26/Mar/2019	26/Mar/2119	CAD System		1		
14		SW-201826	WASHER	3	<Mixed Values>	26/Mar/2019	26/Mar/2119	CAD System		3		
15		SW-201757	BUSHING	2		26/Mar/2019	26/Mar/2119	CAD System		2		
16		SW-201765	BELT COVER	1		26/Mar/2019	26/Mar/2119	CAD System		1		

BILL OF MATERIAL - Download Files from Share

Easier to share information with external users

- New option to enable downloading files from a BOM share



Item		Image	Marker	Part Number	Description	Revision	Qty Manual	Quantity	Origin	Serial Number
1			006	SW-201780	GEAR COVER		1	1	CAD_System	
2			007	SW-201805	BEARING COVER PLA		1	1	CAD_System	
3			008	SW-201810	SPINDLE		1	1	CAD_System	

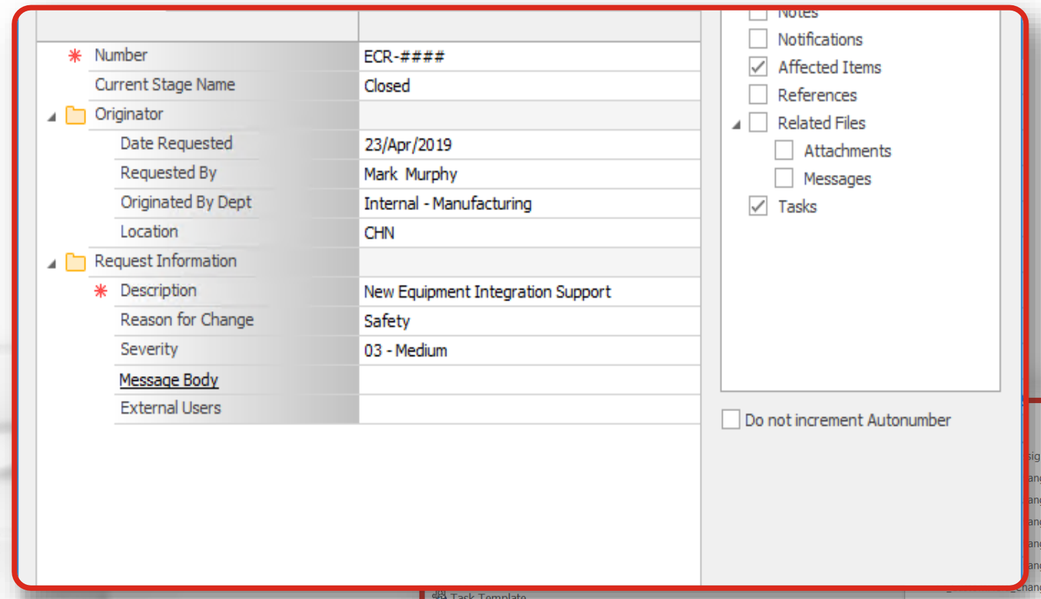
WHAT'S NEW 2025 | MANAGE

SOLIDWORKS

PROCESSES – New From

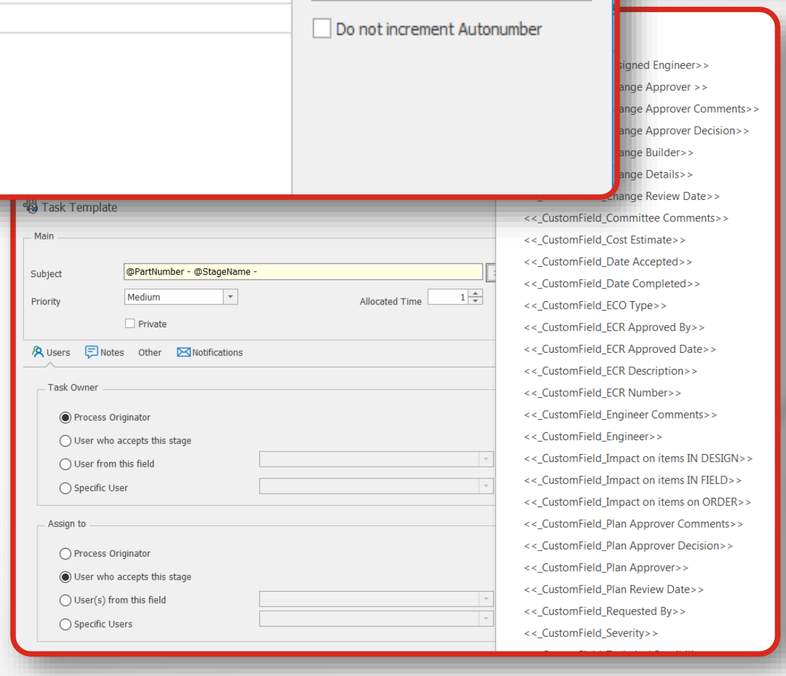
Eliminates running SQL queries to get or set information

- A web-based REST API has been added to the server install
- Enables reading and writing information



PROCESSES – Task Subject Automation

- Increased information for users
- Process task subjects can now include process field values other than process number and stage name



WHAT'S NEW 2025 | MANAGE

SOLIDWORKS

PDM & Manage

Electrical

Simulation

DraftSight

SOLIDWORKS

Zoom to Fit on open (2024 SP01)

- A new option to automatically view the entire extents of the drawing without additional zoom commands
- Save time especially with large projects

Excel Import of Cables and Manufacturer Parts (2024 FD01 / FD02)

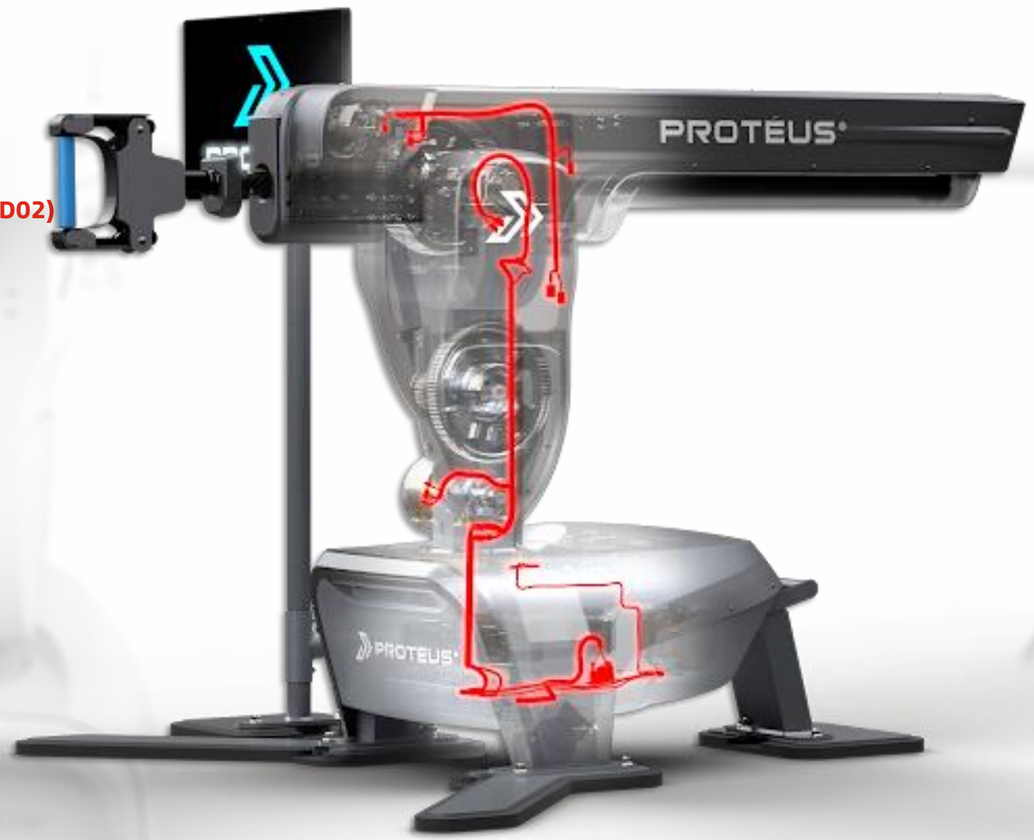
- Import cable references and manufacturer parts to your library with full details using Excel
- Accelerate creating new off-the-shelf assets

Cable Management (2024 FD01, 2025)

- Various improvements made to cables for smoother workflows and flexibility
- Save time with better user experience

Electrical Component Tree (2024 FD02)

- Restructured and simplified to display 2D footprints, 3D parts, and the connection labels associated with a manufacturer part



WHAT'S NEW 2025 | ELECTRICAL 2D

SOLIDWORKS

Intelligent 3D Drawing Creation (2024 FD01)

- Add intelligence to the drawing exported from SOLIDWORKS to the electrical project by linking the 2D footprint with the corresponding component and manufacturer part properties

Dynamic Drawing Link (2024 FD01)

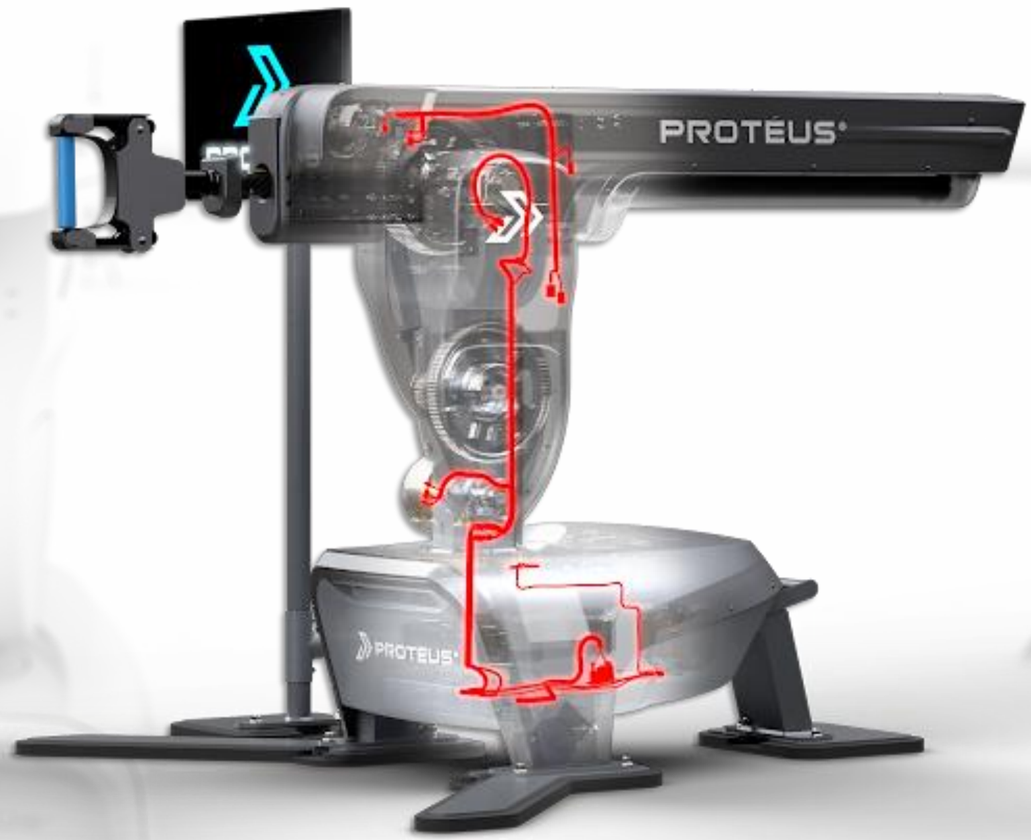
- Establish a dynamic link between drawings in SOLIDWORKS and its copy added to the electrical project
- Automatically update whenever .slddrw is saved

Annotate Tab (2024 FD03)

- Enable local editing of any drawing, whether from 2D or 3D, with a new command tab
- No need to modify in SOLIDWORKS 3D

Update Data from 3D

- Update data and Replace data commands are available in SOLIDWORKS Electrical 3D
- Manufacturer part properties, cable references and symbols can be updated without going back to Electrical 2D



WHAT'S NEW 2025 | ELECTRICAL 2D

SOLIDWORKS

Drawing Mark Numbers (2024 FD02)

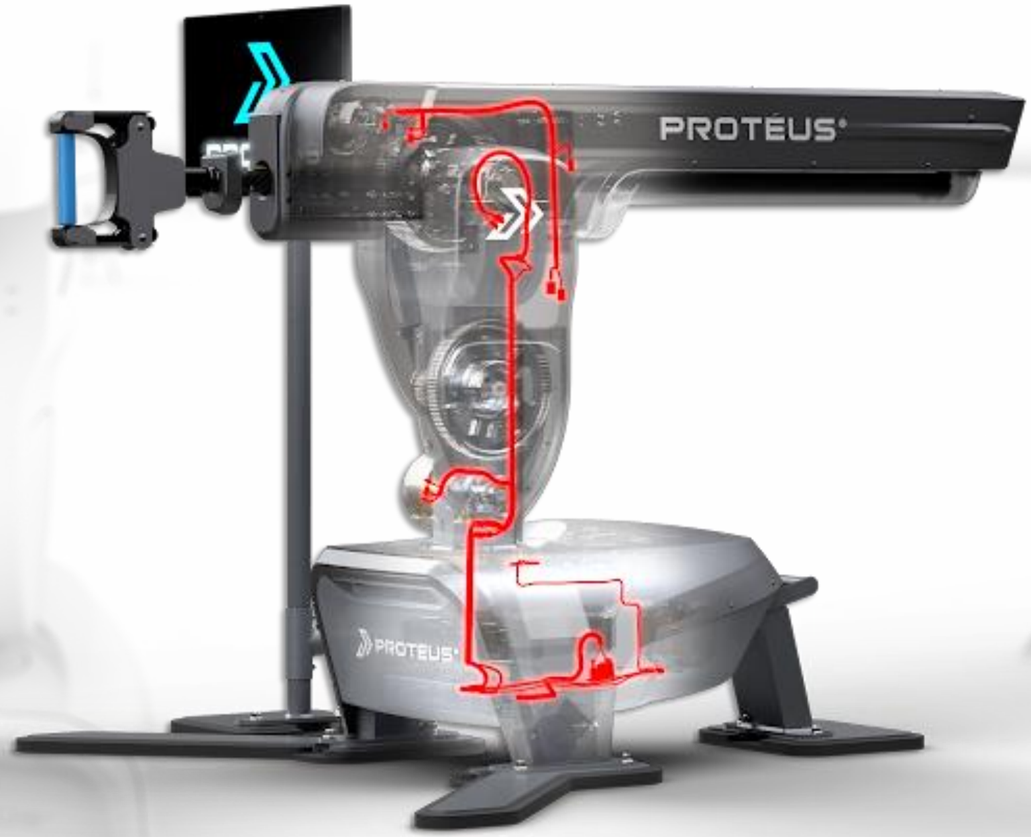
- Generate and number drawings by folder
- Enables you to assign the same drawing number across multiple folders

Distributed Terminals

- Link symbols to specific circuits and pins, simplifying the depiction of complex terminal arrangements
- Dynamic circuit and pin selection

Terminal Strip Drawings (2024 FD03)

- New displays for destination components for cables and wires
- Speed up the documentation of electrical terminal strips



WHAT'S NEW 2025 | ELECTRICAL 2D

SOLIDWORKS

Loop Prevention (2024 FD01)

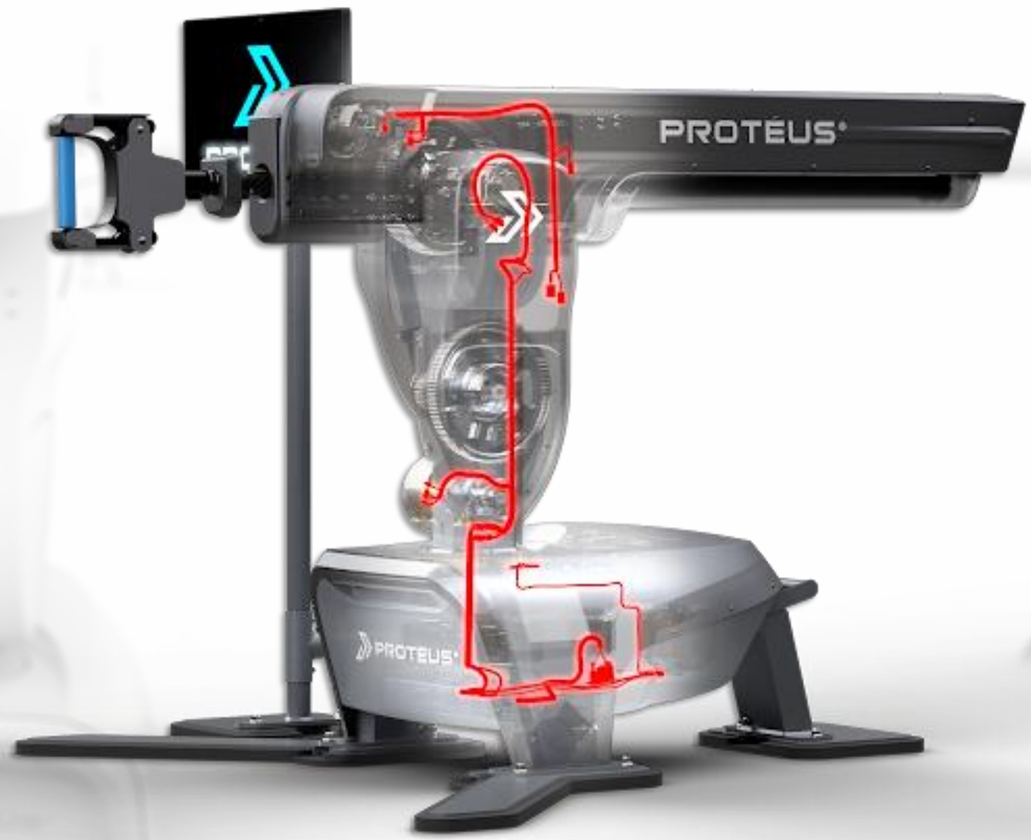
- Use existing sketch segments passing through the splice component instead of adding new sketch segments for the un-spliced wires. This avoids creation of loops at the splice component

Flattening Multi-Circuit Splices (2024 FD02, 2025)

- Flatten Route offers improved support for complex and multi-circuit splices
- Improves flattening for better documentation

Cleaner Flattened Drawing (2024 FD01, 2025)

- Improve harness board drawings with enhancement to flattened drawing behavior and expanded Flatten Route Items manager
- Better quality results when changing 3D routes

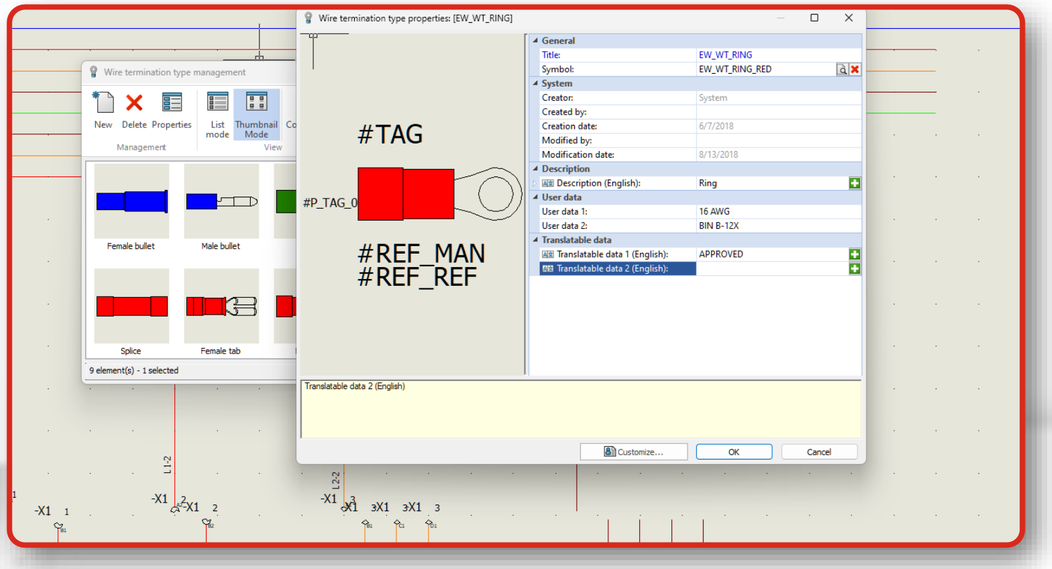


WHAT'S NEW 2025 | ELECTRICAL 3D

SOLIDWORKS

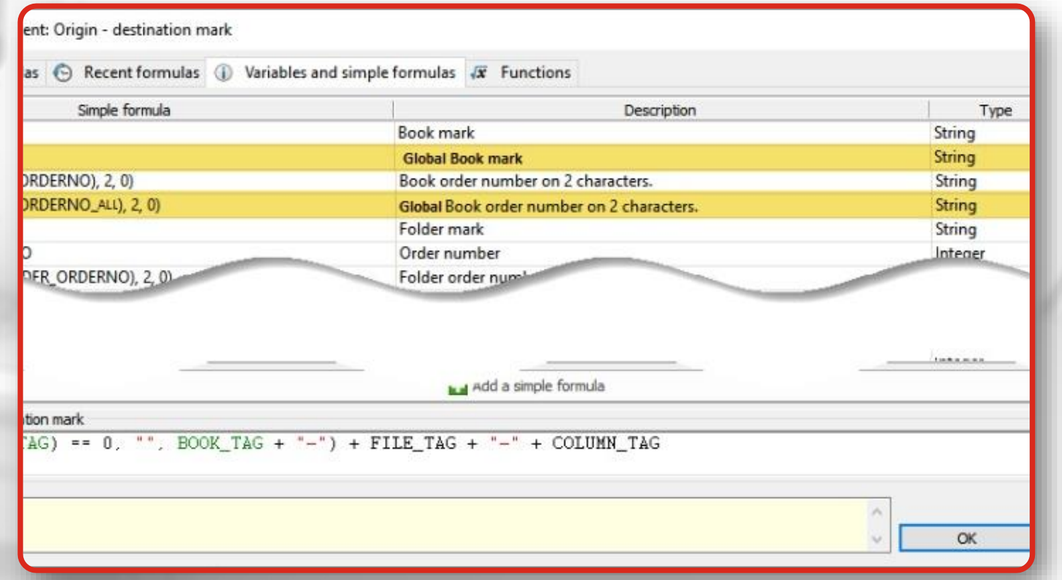
Wire Termination User Data

- You can add user data and customize details about wire termination types in your electrical designs
- With new user data fields, you can add information like pin, part number, manufacturer and wire size; then pull add to your report



Origin-Destination New Variable

- New variables are available in the Formula Management dialog box that lets you label origin and destination arrows more effectively
- This makes it easier to find and understand bookmarks, especially when the arrows are in the same book

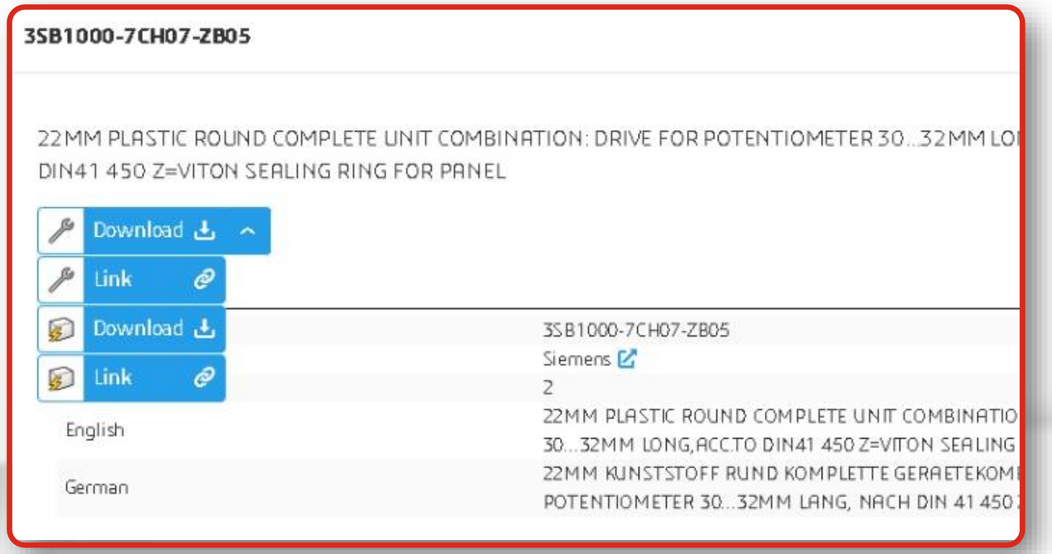


WHAT'S NEW 2025 | ELECTRICAL 2D

SOLIDWORKS

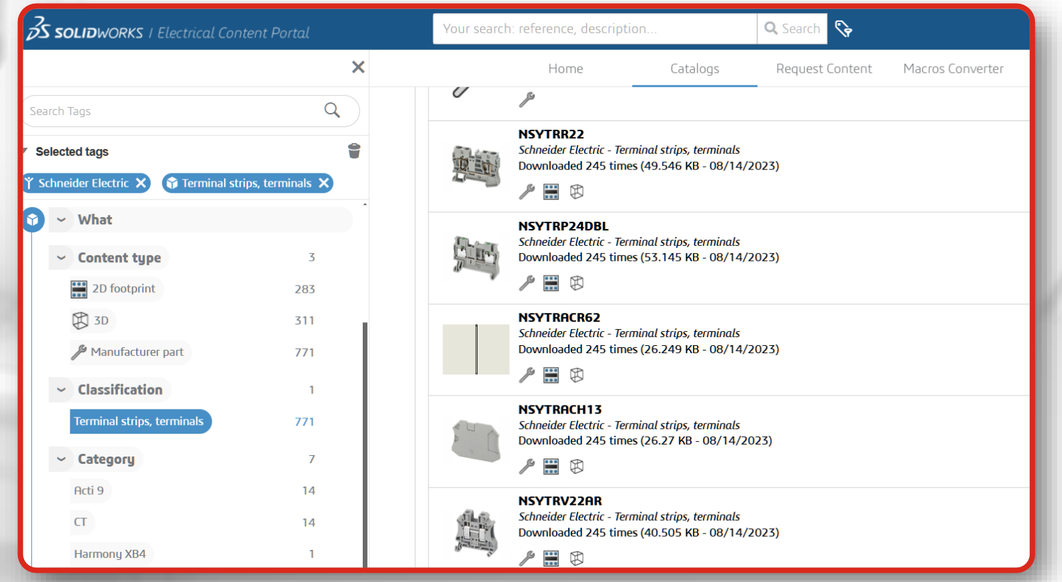
Sharing Links in Electrical Content Portal (2024 FD01)

- You can share links to an item (manufacturer part, symbol, etc) or the electrical package containing the item in the Electrical Content Portal (ECP)
- Easily share electrical content with teammates by copying and pasting links, enabling better collaboration



ECP User Experience and 6WTags (2025, 2024 FD03)

- Speed up library creation and electrical project development using drag and drop of ECP content to the graphic area of Electrical
- Provide notifications when the process is complete
- Find content more easily using enhanced 6WTag functionality now including Date and Class filters

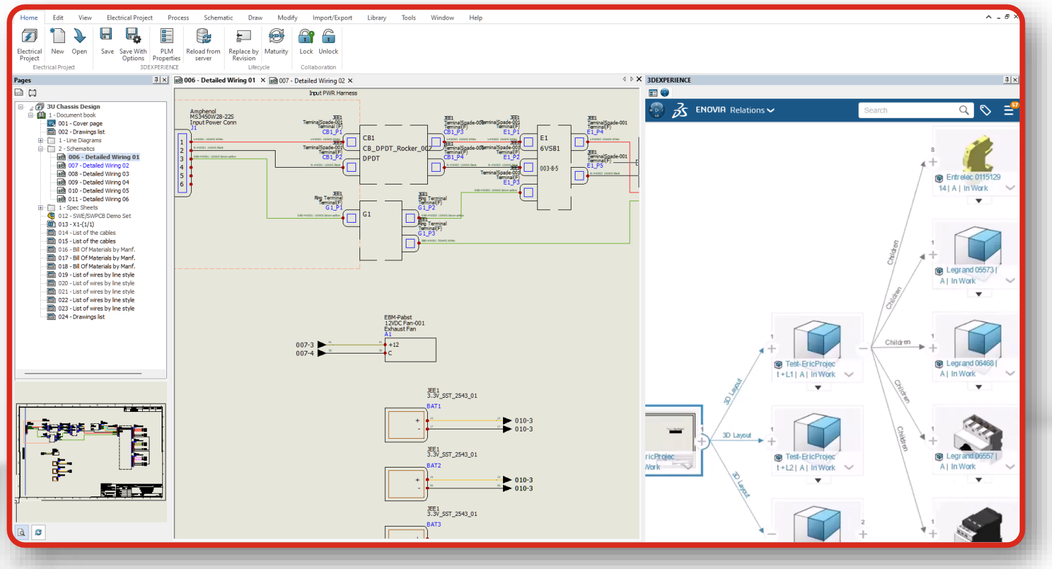


WHAT'S NEW 2025 | ELECTRICAL 3D

SOLIDWORKS

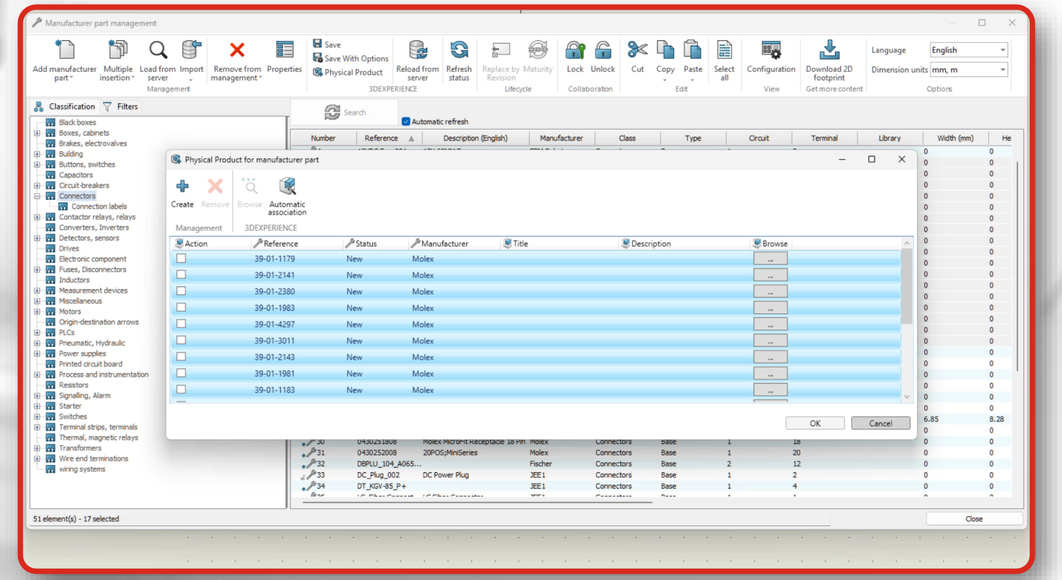
Product Structure in 3DEXPERIENCE (ESX) (2024 FD03)

- Save both project package and create product structure in 3DSpace
- Creates a new physical product or associate an existing physical product to a manufacturer part
- Enables unified product structure using Product Release Engineer



Automatically Associate Physical Products (ESX)

- Automatically associate manufacturer parts to existing Physical Products
- Make it easy to connect manufacturer parts with existing products on 3DEXPERIENCE platform, reducing clicks and time

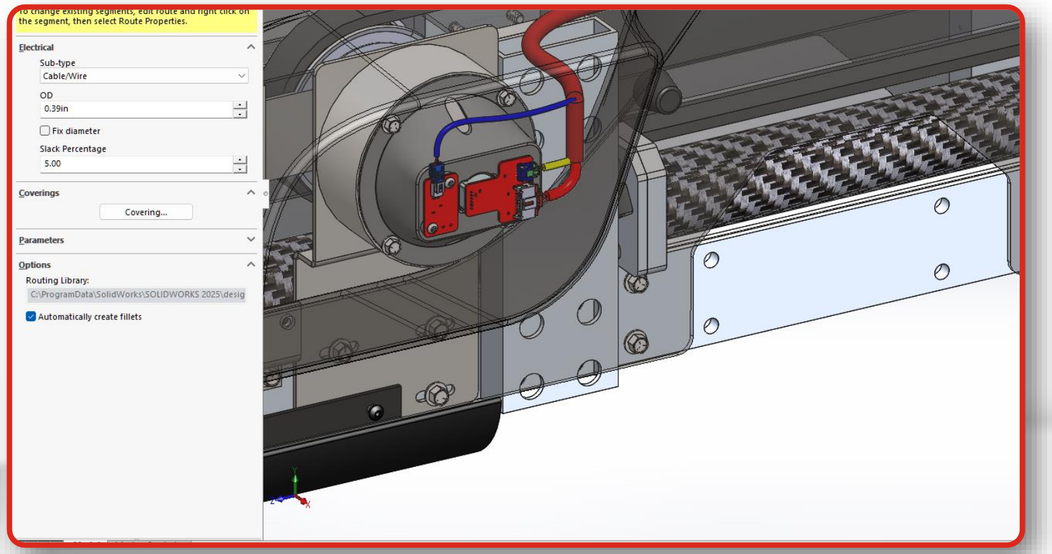


WHAT'S NEW 2025 | ELECTRICAL SHEMATIC DESIGNER

SOLIDWORKS

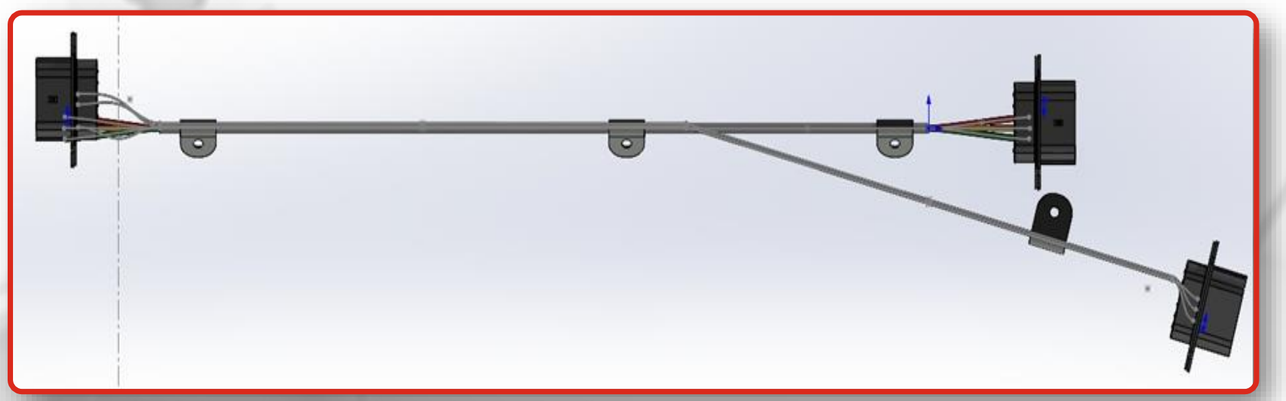
Slack Percentages Per Route Segment

- Define a custom value for the Slack Percentage for individual route segments
- This value overrides default system option value
- Cutting length is calculated to take into account sagging, kinks, and other assembly needs (routing only)



Discrete Wires (2024 FD01, 2025)

- Continued development of Discrete Wires:
  - Route through clips
  - Flatten route containing clips
  - Editing wires and routes
- Future development will extend Discrete Wires to SOLIDWORKS Electrical

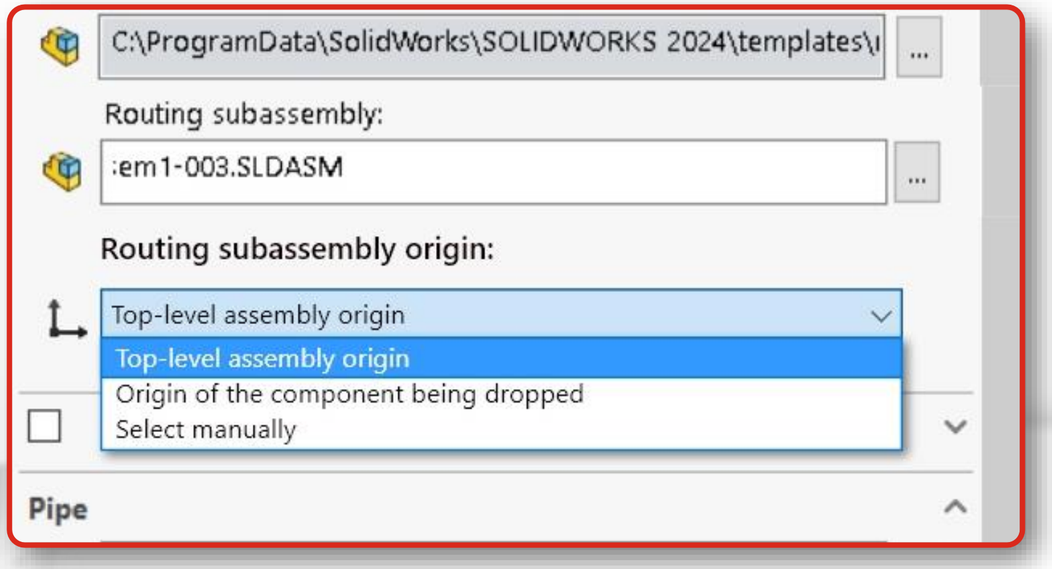


WHAT'S NEW 2025 | ROUTING

SOLIDWORKS

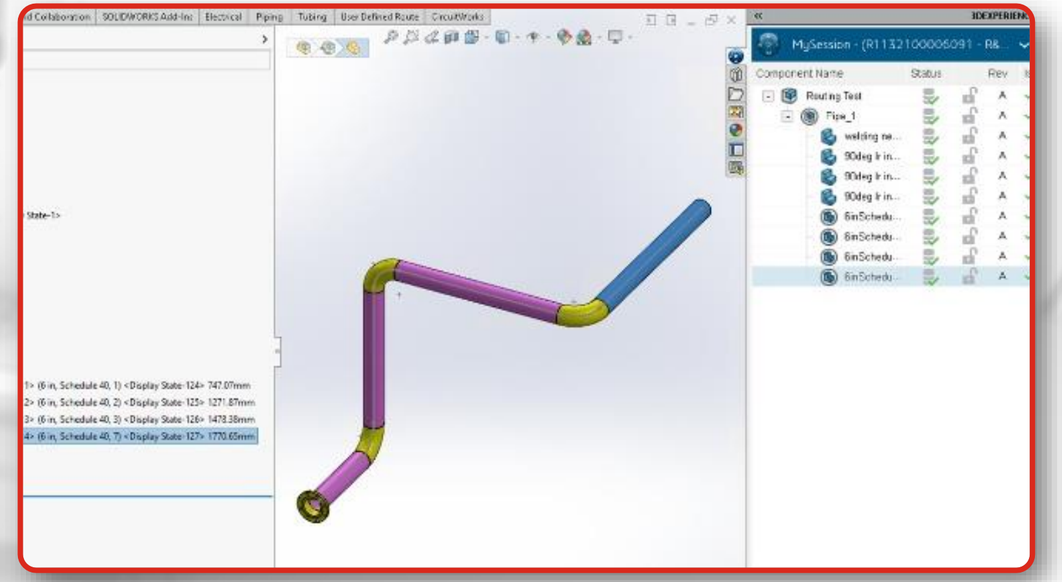
Align Route Assembly

- Align and position new routing sub-assemblies according to your design requirements
- Specify origin location, as expanded in SOLIDWORKS 2024 FD01



Pipe and Tube Component Improvement

- Use existing pipe part configuration for any design changes instead of creating new one
- Previously, each edit would create a new configuration, hence a new physical product on 3DEXPERIENCE, which created lifecycle and permission ramifications



WHAT'S NEW 2025 | ROUTING

SOLIDWORKS

PDM & Manage

Electrical

Simulation

DraftSight

SOLIDWORKS

Exclude Others From Analysis

- Significant time saver when working with large assemblies

New General Spring connector

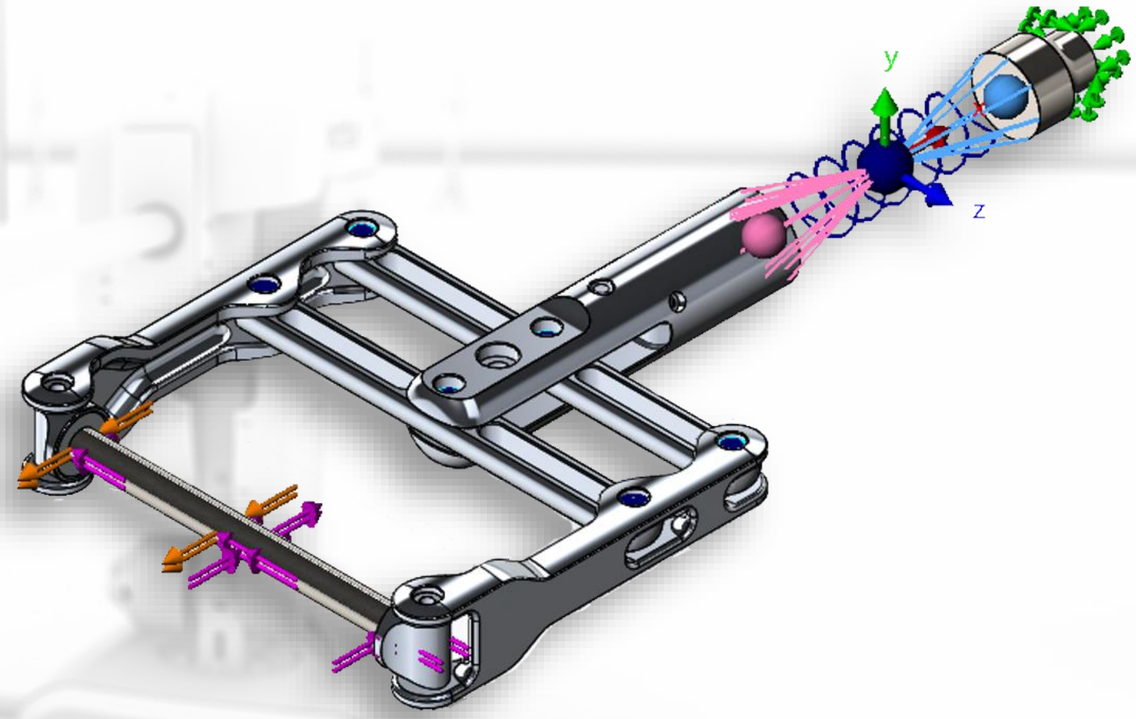
- Allows you to more accurately define a spring with stiffness in all orthogonal directions along with torsional and bending stiffness

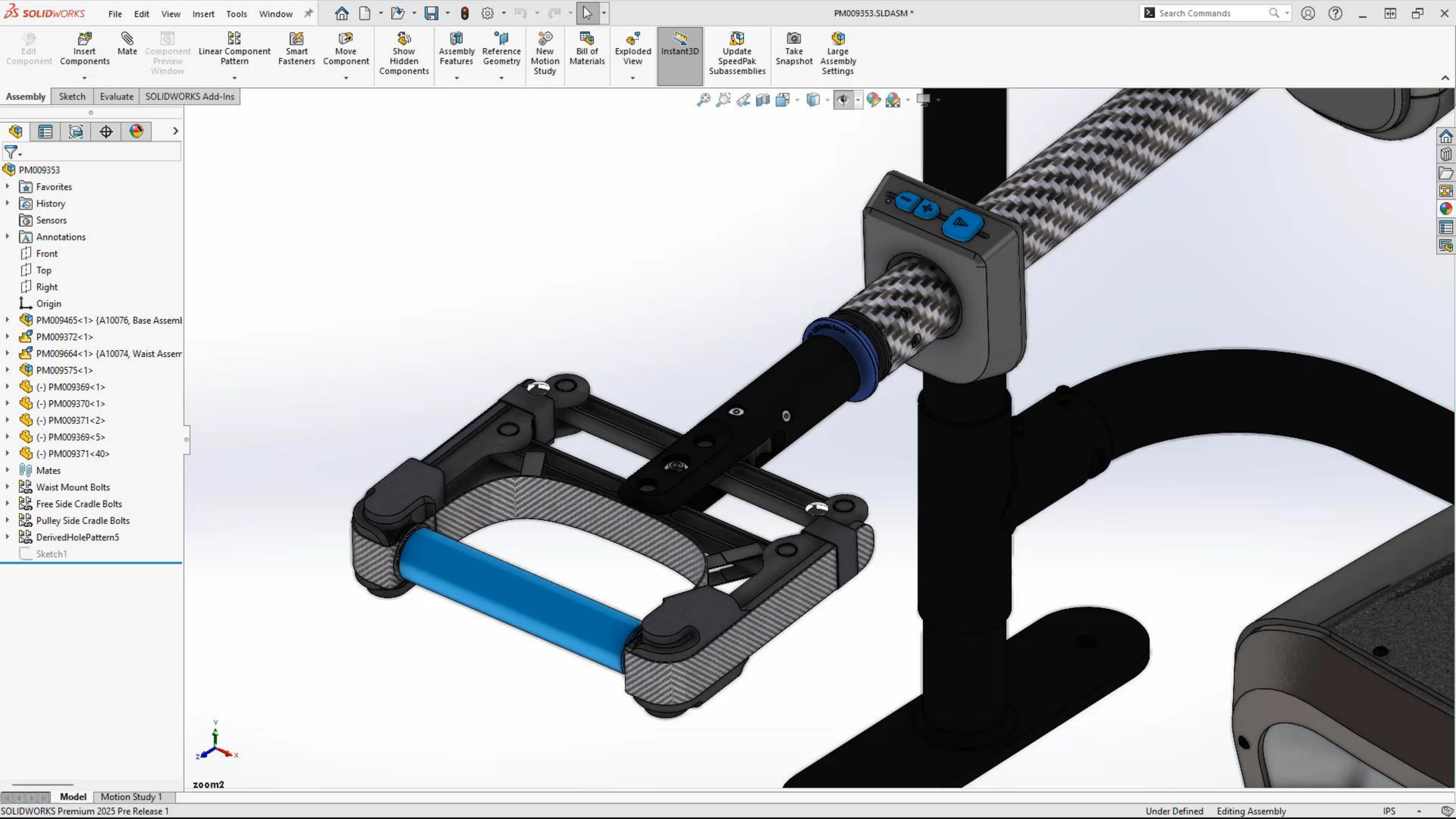
Reuse the Mid-side Node for Mesh

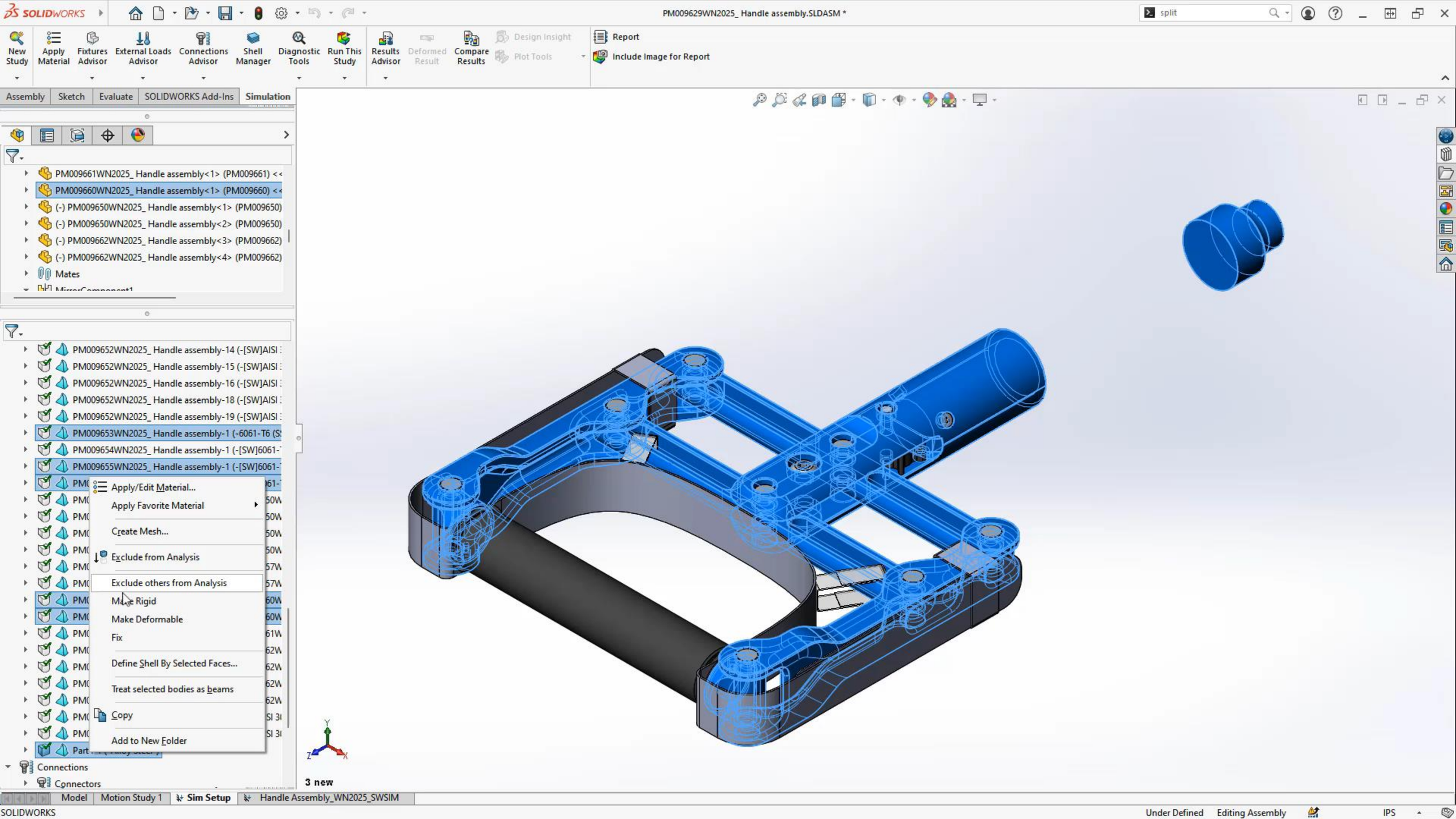
- Helps save time when meshing large assemblies with duplicated components

Enhanced Pin connector

- Improved performance when using DCOUP based pin connector

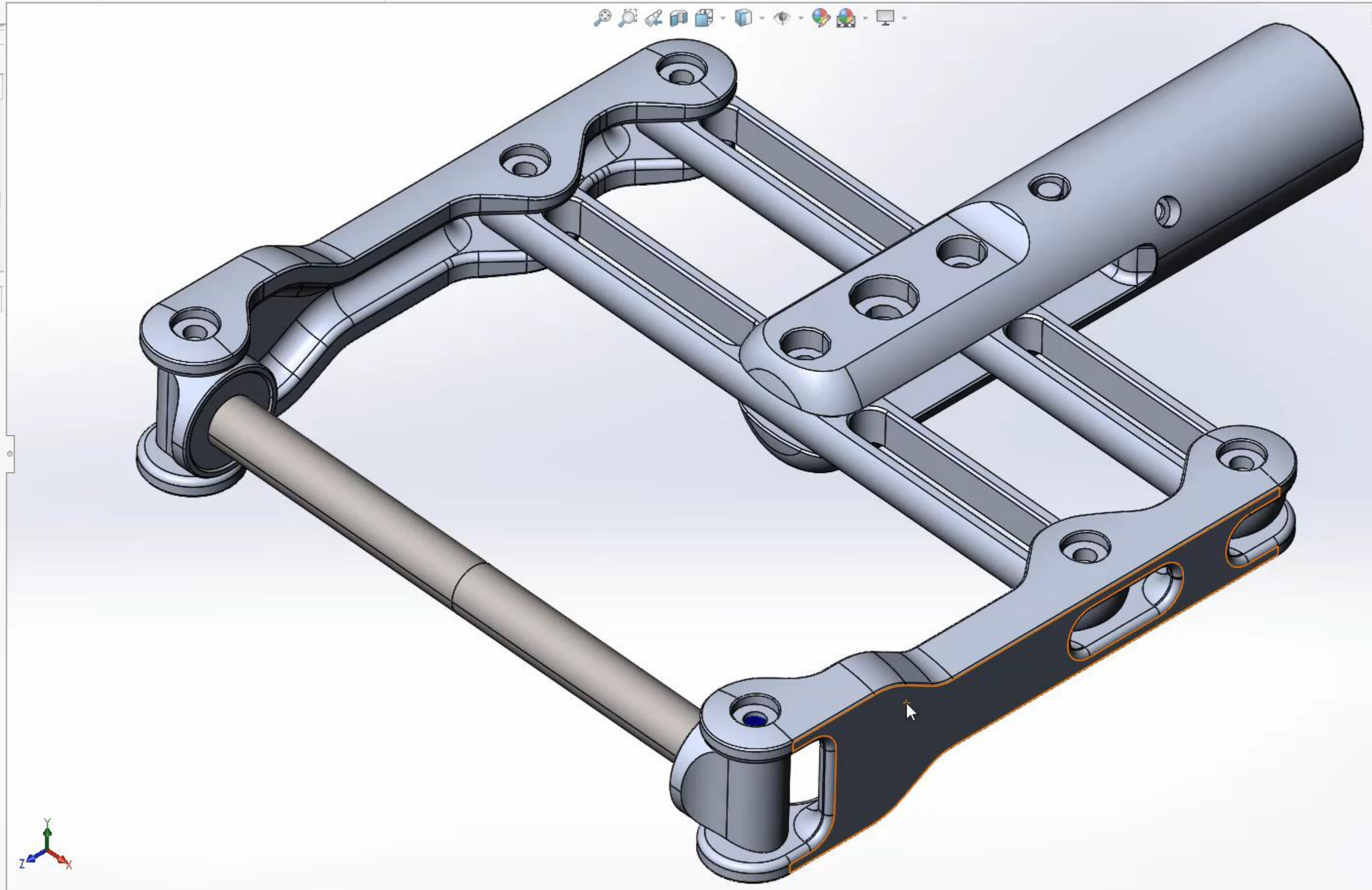


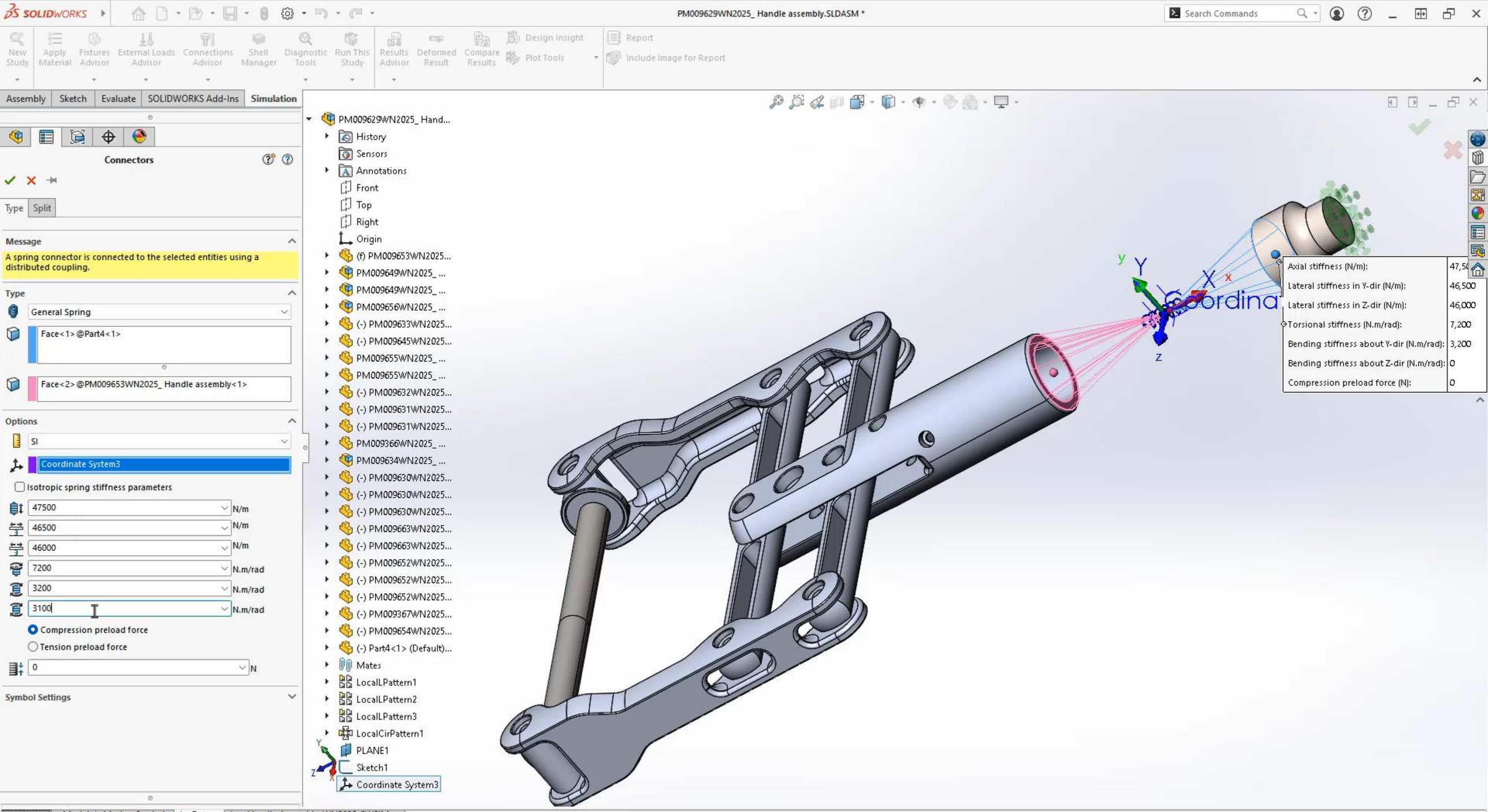

SOLIDWORKS
File Edit View Insert Tools Window
PM009353.SLDASM *
Search Commands
Edit Component
Insert Components
Mate
Component Preview Window
Linear Component Pattern
Smart Fasteners
Move Component
Show Hidden Components
Assembly Features
Reference Geometry
New Motion Study
Bill of Materials
Exploded View
Instant3D
Update SpeedPak Subassemblies
Take Snapshot
Large Assembly Settings
Assembly
Sketch
Evaluate
SOLIDWORKS Add-Ins
PM009353
Favorites
History
Sensors
Annotations
Front
Top
Right
Origin
PM009465<1> {A10076, Base Assemb
PM009372<1>
PM009664<1> {A10074, Waist Assem
PM009575<1>
(-) PM009369<1>
(-) PM009370<1>
(-) PM009371<2>
(-) PM009369<5>
(-) PM009371<40>
Mates
Waist Mount Bolts
Free Side Cradle Bolts
Pulley Side Cradle Bolts
DerivedHolePattern5
Sketch1
zoom2
Model
Motion Study 1
SOLIDWORKS Premium 2025 Pre Release 1
Under Defined
Editing Assembly
IPS


PM009629WN2025_ Handle assembly.SLDASM *
split
New Study
Apply Material
Fixtures Advisor
External Loads Advisor
Connections Advisor
Shell Manager
Diagnostic Tools
Run This Study
Results Advisor
Deformed Result
Compare Results
Design Insight
Plot Tools
Report
Include Image for Report
Assembly
Sketch
Evaluate
SOLIDWORKS Add-Ins
Simulation
PM009661WN2025_ Handle assembly<1> (PM009661) <<
PM009660WN2025_ Handle assembly<1> (PM009660) <<
(-) PM009650WN2025_ Handle assembly<1> (PM009650)
(-) PM009650WN2025_ Handle assembly<2> (PM009650)
(-) PM009662WN2025_ Handle assembly<3> (PM009662)
(-) PM009662WN2025_ Handle assembly<4> (PM009662)
Mates
PM009652WN2025_ Handle assembly-14 (-[SW]AISI
PM009652WN2025_ Handle assembly-15 (-[SW]AISI
PM009652WN2025_ Handle assembly-16 (-[SW]AISI
PM009652WN2025_ Handle assembly-18 (-[SW]AISI
PM009652WN2025_ Handle assembly-19 (-[SW]AISI
PM009653WN2025_ Handle assembly-1 (-6061-T6 (S
PM009654WN2025_ Handle assembly-1 (-[SW]6061-
PM009655WN2025_ Handle assembly-1 (-[SW]6061-
Apply/Edit Material...
Apply Favorite Material
Create Mesh...
Exclude from Analysis
Exclude others from Analysis
Make Rigid
Make Deformable
Fix
Define Shell By Selected Faces...
Treat selected bodies as beams
Copy
Add to New Folder
Connections
Connectors
3 new
Model
Motion Study 1
Sim Setup
Handle Assembly_WN2025_SWSIM
SOLIDWORKS
Under Defined
Editing Assembly
IPS

- (-) PM009650WN2025_ Handle assembly<5> (PM009(
- (-) PM009650WN2025_ Handle assembly<6> (PM009(
- (-) PM009633WN2025_ Handle assembly<1> (PM009633) <<D
- (-) PM009645WN2025_ Handle assembly<1> (Default) <<Defa
- PM009655WN2025_ Handle assembly<1> (PM009655) <<Defa
- PM009655WN2025_ Handle assembly<2> (PM009655) <<Defa
- (-) PM009632WN2025_ Handle assembly<1> (PM009632) <<D

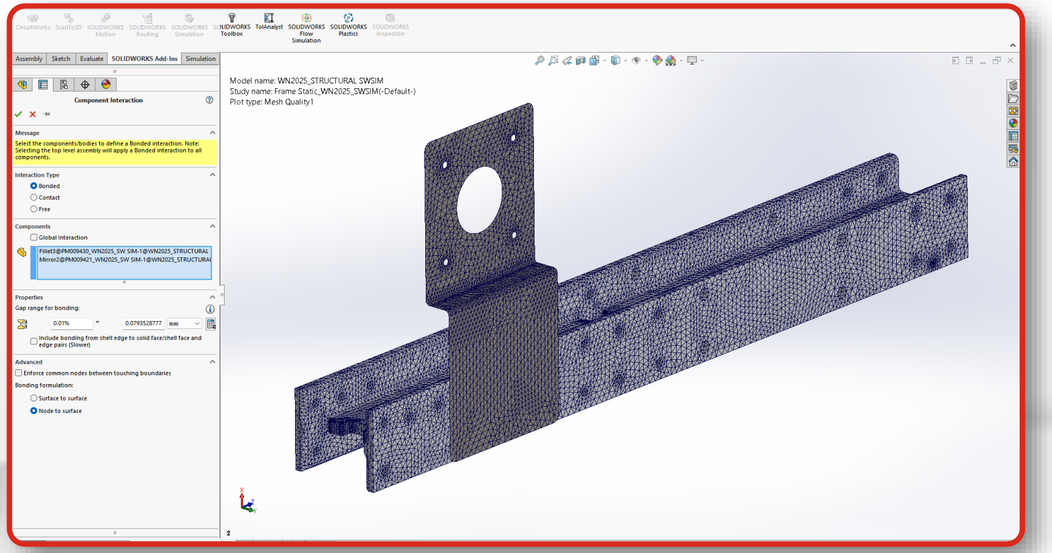
- Sim Setup* (-Default-)
- Parts
- Connections
  - Connectors
    - Pin Connector-1 (:0 N.m/rad:)
    - Pin Connector-2 (:0 N.m/rad:)
    - Pin Connector-3 (:0 N.m/rad:)
    - Pin Connector-4 (:0 N.m/rad:)
    - Pin Connector-5 (:0 N.m/rad:)
    - Pin Connector-6 (:0 N.m/rad:)
    - Pin Connector-7 (:0 N.m/rad:)
    - Pin Connector-8 (:0 N.m/rad:)
    - General Spring Connector-1
    - Pin Connector-9 (:0 N.m/rad:)
  - Local Interactions
  - Component Interactions
- Fixtures
- External Loads
- Mesh
- Result Options




PM009629WN2025_ Handle assembly.SLDASM *
Search Commands
New Study
Apply Material
Fixtures Advisor
External Loads Advisor
Connections Advisor
Shell Manager
Diagnostic Tools
Run This Study
Results Advisor
Deformed Result
Compare Results
Design Insight
Plot Tools
Report
Include Image for Report
Assembly
Sketch
Evaluate
SOLIDWORKS Add-Ins
Simulation
Connectors
Type
Split
Message
A spring connector is connected to the selected entities using a distributed coupling.
Type
General Spring
Face<1>@Part4<1>
Face<2>@PM009653WN2025_ Handle assembly<1>
Options
SI
Coordinate System3
Isotropic spring stiffness parameters
47500 N/m
46500 N/m
46000 N/m
7200 N.m/rad
3200 N.m/rad
3100 N.m/rad
Compression preload force
Tension preload force
0 N
Symbol Settings
PM009629WN2025_ Hand...
History
Sensors
Annotations
Front
Top
Right
Origin
Mates
LocalLPattern1
LocalLPattern2
LocalLPattern3
LocalCirPattern1
PLANE1
Sketch1
Coordinate System3
Axial stiffness (N/m): 47,50
Lateral stiffness in Y-dir (N/m): 46,500
Lateral stiffness in Z-dir (N/m): 46,000
Torsional stiffness (N.m/rad): 7,200
Bending stiffness about Y-dir (N.m/rad): 3,200
Bending stiffness about Z-dir (N.m/rad): 0
Compression preload force (N): 0
Model
Motion Study 1
Setup
Handle Assembly_WN2025_SWSIM
PM009629WN2025_ Handle assembly
Under Defined
Editing Assembly
IPS

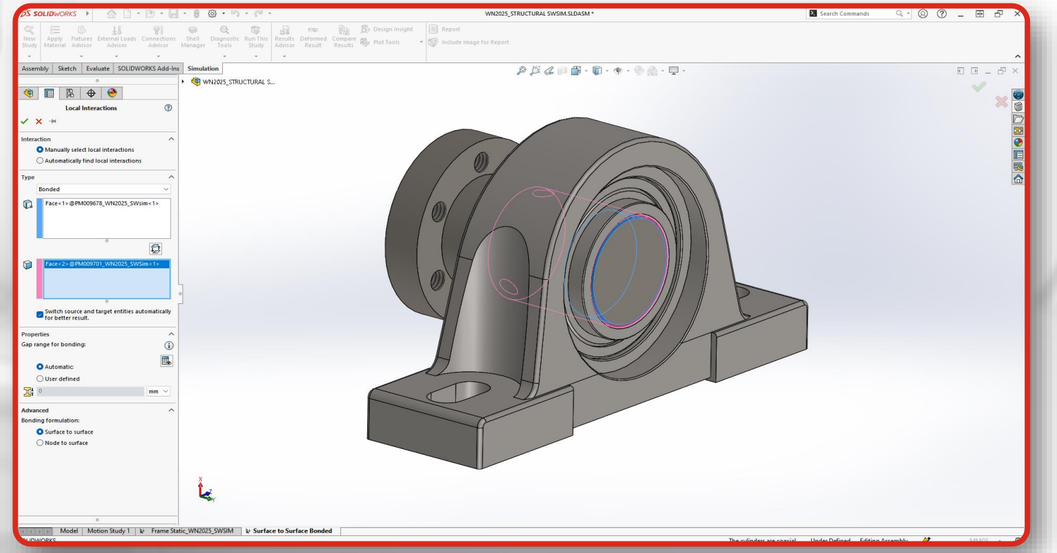
Node to Surface Bonding With Offset

- Improved accuracy when using Node to surface Bonding contact with a gap between two entities



Surface to Surface Bonding

- Improved accuracy when using surface to surface Bonding contact on cylindrical, conical or spherical surfaces

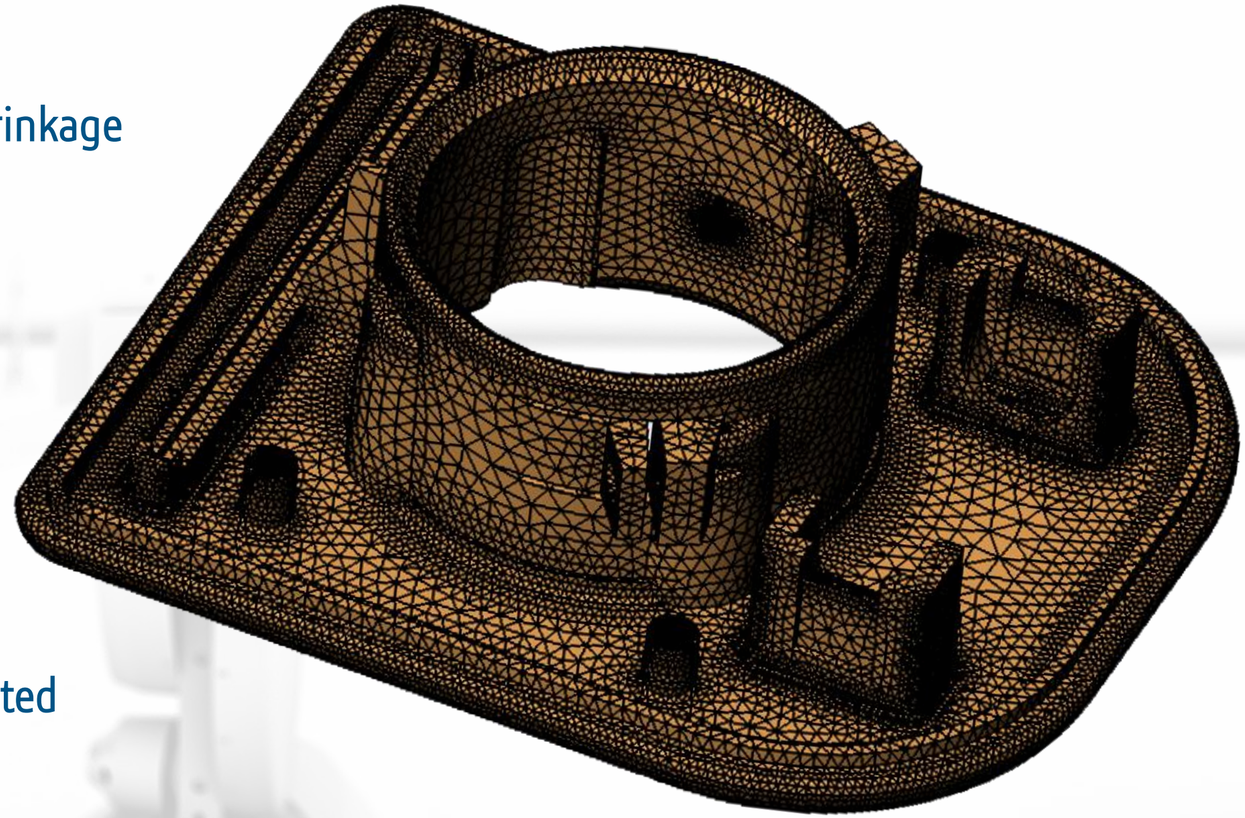


WHAT'S NEW 2025 | SIMULATION - STRUCTURAL

SOLIDWORKS

Isolate Cause of Warpage

- New warpage results that allow you to study the effects of unbalanced cooling, Orientation effects and Non-uniform shrinkage



Enhanced Sink Mark Solutions

- Helps save time when meshing large assemblies with duplicated components

Search Commands

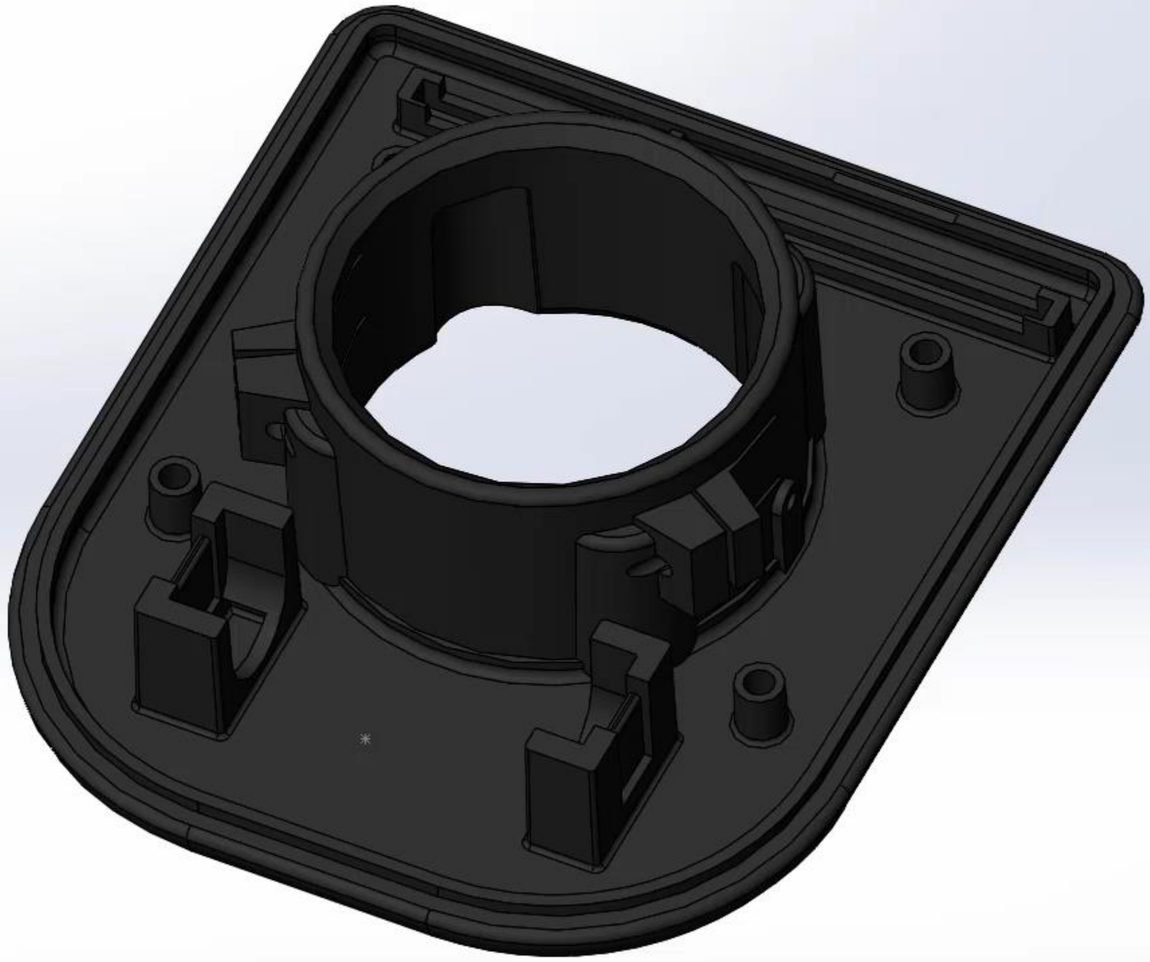
Extruded Boss/Base | Revolved Boss/Base | Swept Boss/Base | Lofted Boss/Base | Boundary Boss/Base | Extruded Cut | Hole Wizard | Revolved Cut | Swept Cut | Lofted Cut | Boundary Cut | Fillet | Linear Pattern | Rib | Draft | Shell | Wrap | Intersect | Reference Geometry | Curves | Instant3D | Combine | Split Line

Features | Sketch | Mold Tools | Evaluate | SOLIDWORKS Add-Ins | Analysis Preparation | SOLIDWORKS Plastics

- Default Study (Single Material)
  - Simulation Type: Fill + Pack + Warp
  - Injection Units
  - Domains
  - Boundary Conditions
  - Global Parameters
  - Solid Mesh
  - Results

Shading Model

Type : Solid - Tetrahedral Hybrid
Element : 73521
Node : 29964
Material : PA66
Product : Hoechst Celanese / Nylon 1003-2
Configuration : Default [PM009621_WN2025_SW SIM_WN20



Model | Motion Study 1

SOLIDWORKS

IPS

PM009621_WN2025_SW Si...

Results

Pack | Fill | Warp

Available Results

- Fill Time
- Pressure at End of Fill
- Temperature at End of Fill
- Bulk Temperature at End of Fill
- Flow Front Temperature
- Temperature Growth at End of Fill
- Shear Stress at End of Fill
- Shear Rate at End of Fill
- Volumetric Shrinkage at End of Fill
- Freezing Time at End of Fill
- Cooling Time
- Temperature at End of Cooling
- Sink Marks Estimate at End of Fill
- Frozen Area at End of Fill
- Gate Filling Contribution
- Ease of Fill

Velocity Vector at End of Fill

Weld Lines

Air Traps

6.977362

0.00043

Clipping Options

Animation

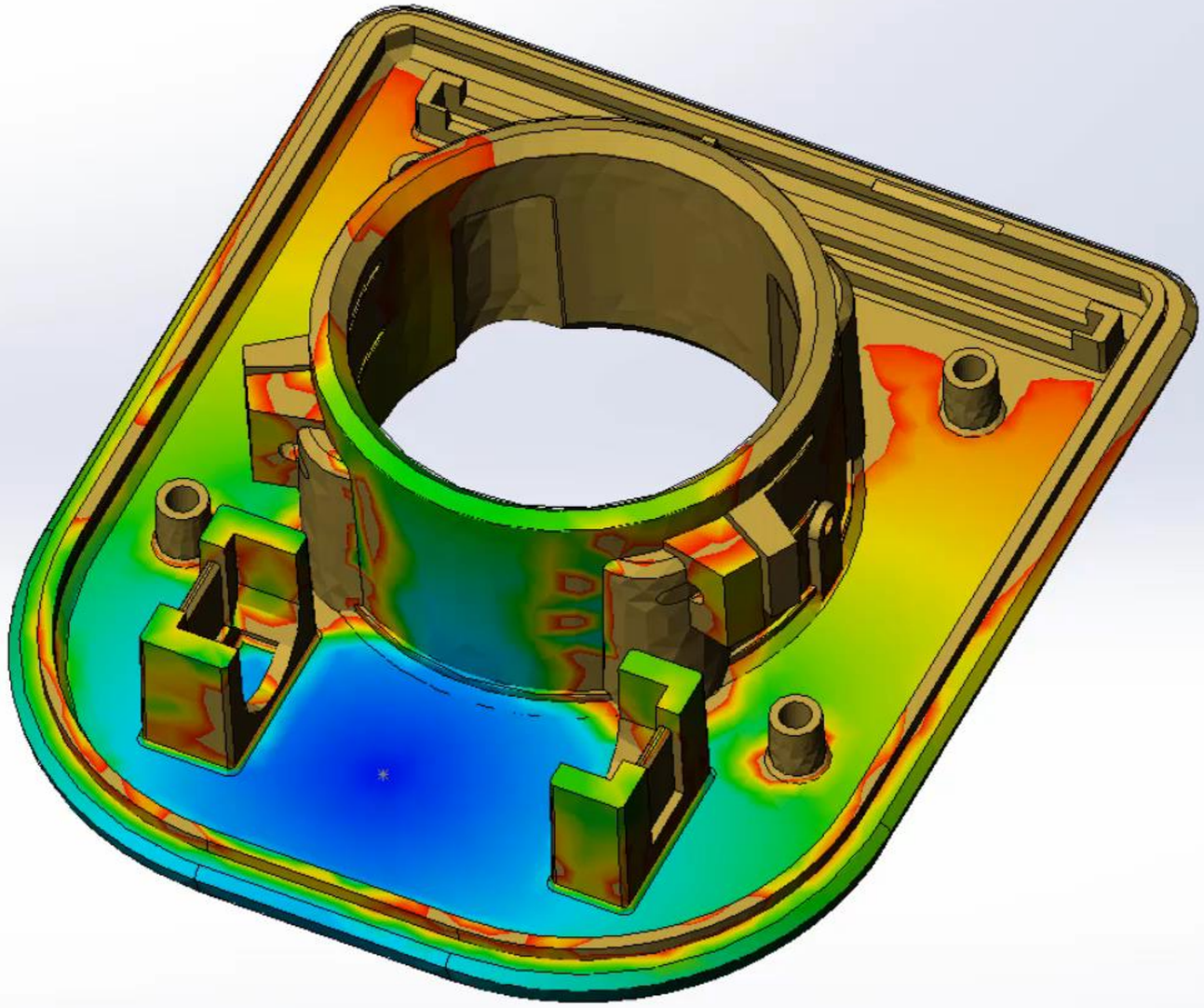
Play

Report Options

FILL/ Fill Time

Max : 6.9774 sec
Min : 4.301e-04 sec

sec
4.9889
3.9912
2.9935
1.9958
0.9981
4.301e-04



Type : Solid - Te
Element : 73521
Node : 29964
Material : PA66
Product : Hoech
Configuration :

Sim 1

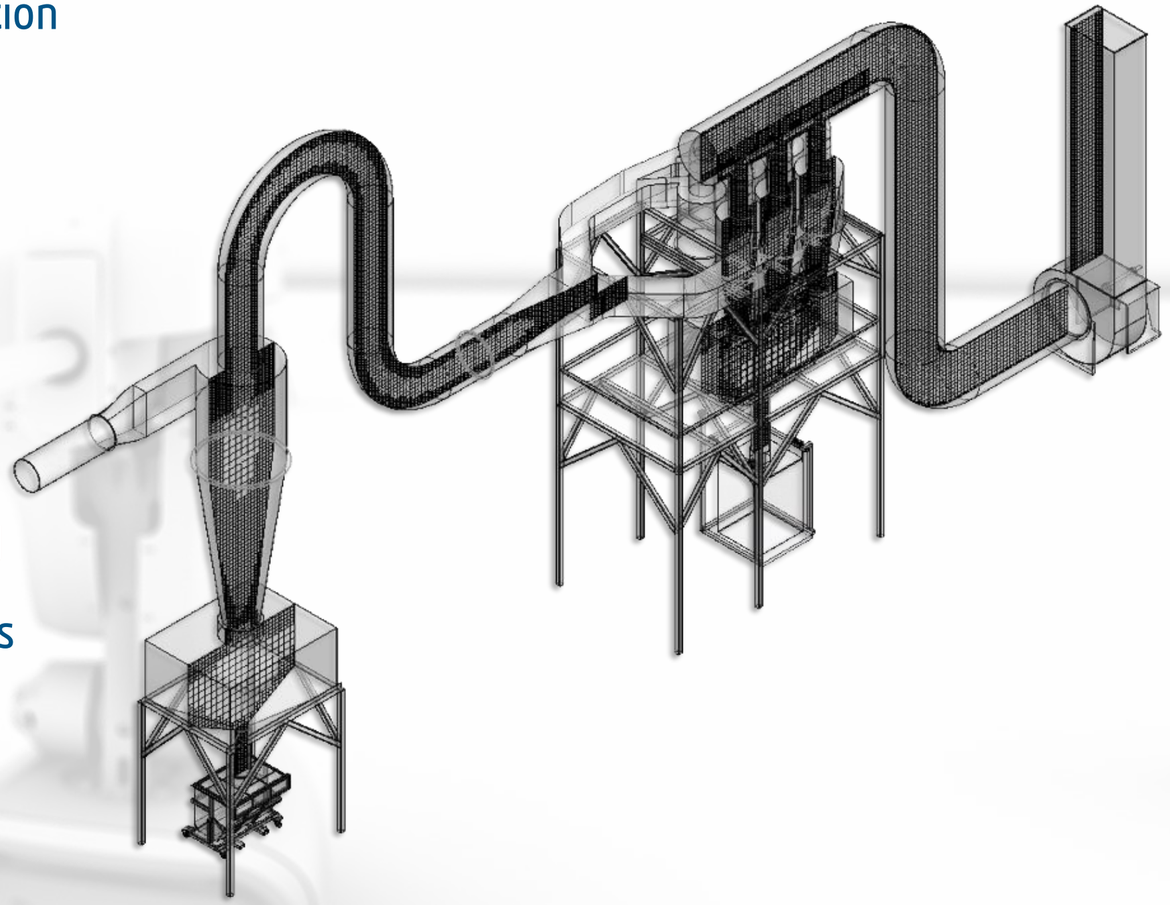
Model | Motion Study 1

SOLIDWORKS

Editing P

Large Assemblies Preprocessing Speedup

- Helps speed up basic operations like Model opening, project creation and cloning



Fast Mesh Generation for Convergent Geometry

- Mesher speed increase for convergent faceted and STL geometries

PDM & Manage

Electrical

Simulation

DraftSight

SOLIDWORKS

PDM & Manage

Electrical

Simulation

DraftSight

SOLIDWORKS

DraftSight™

Complete 2D Drafting Solution

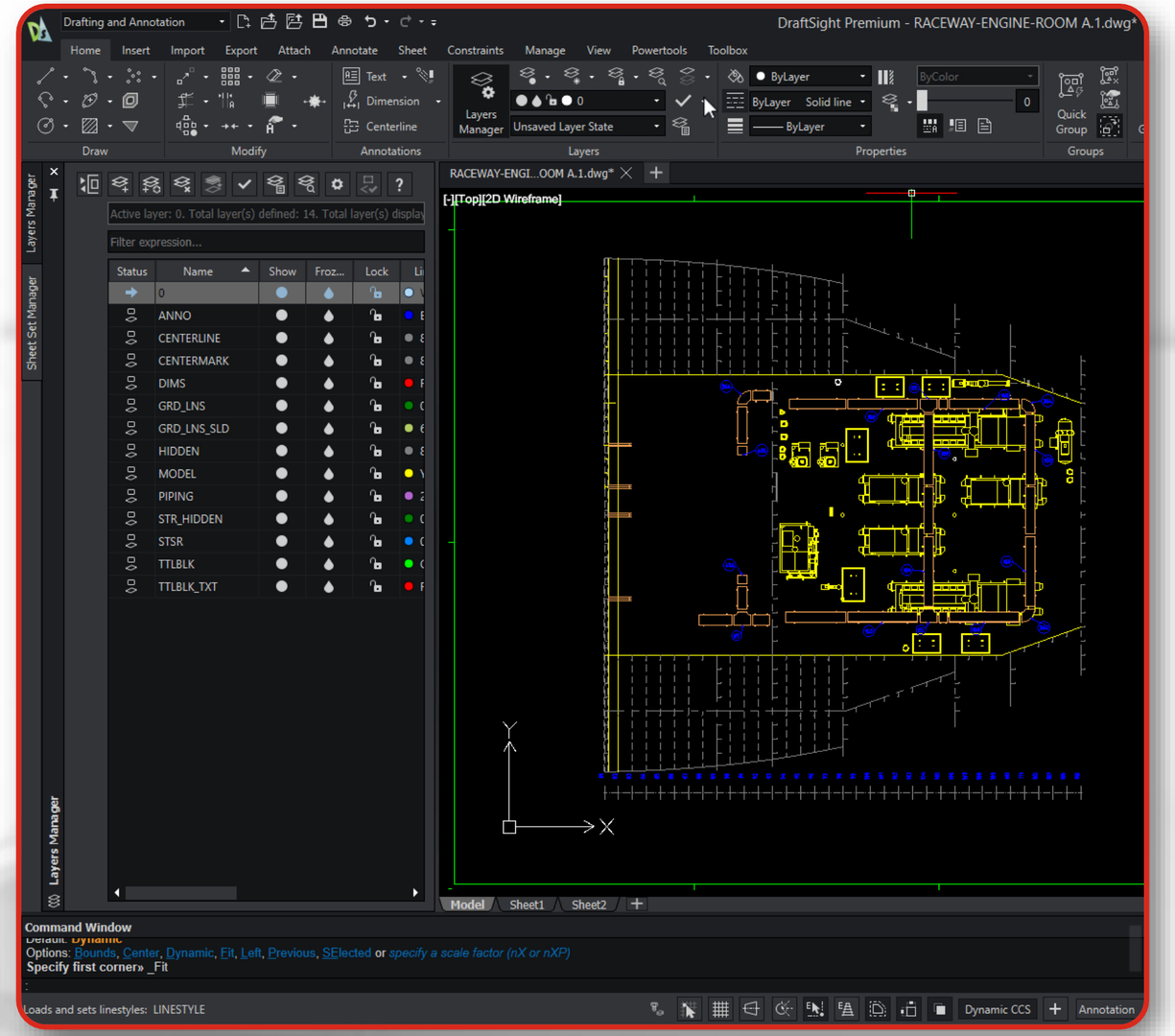
- Create, edit, view, & share 2D & 3D DWG files
- Built for architects, engineers, designers, hobbyists and more

Easy to Use

- Familiar and easy to learn interface
- Productivity & API tools

Efficient 2D & 3D Workflows

- Optimize your existing workflows



WHAT'S NEW 2025 | DRAFTSIGHT

SOLIDWORKS

STEP File Import

- Accelerate your 3D design workflows

Block Structure Palette

- Organize, preview, hide, or isolate blocks (including blocks inside of blocks)

Export DWG to DGN

- Seamless collaboration for civil engineering, architecture, plant design, & more

Flatten Command

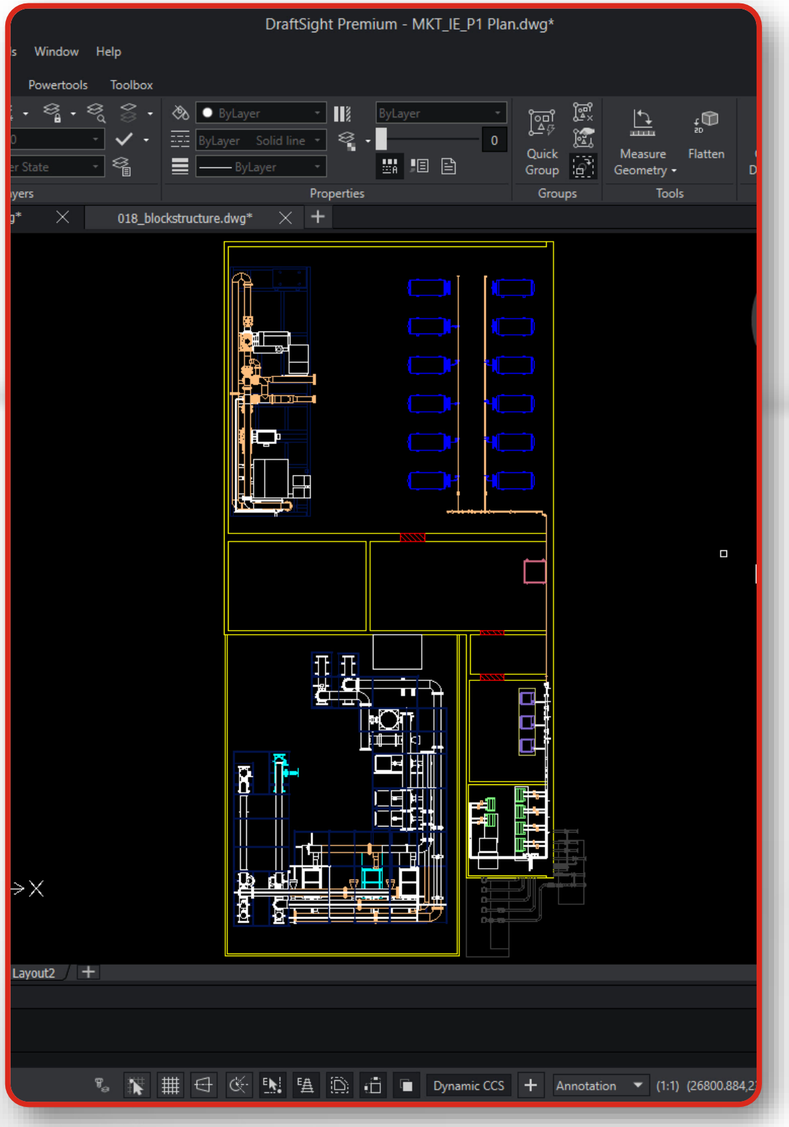
- Move all specified elements to a single plane

Custom Block Visibility

- Specify which entities within a custom block appear at any given time

Persistent Menu Bar

- Easier access to pertinent commands



WHAT'S NEW 2025 | DRAFTSIGHT

SOLIDWORKS

Visual Style Manager

- Customize 3D entity display using preset or user-defined settings

Dimension Space Command

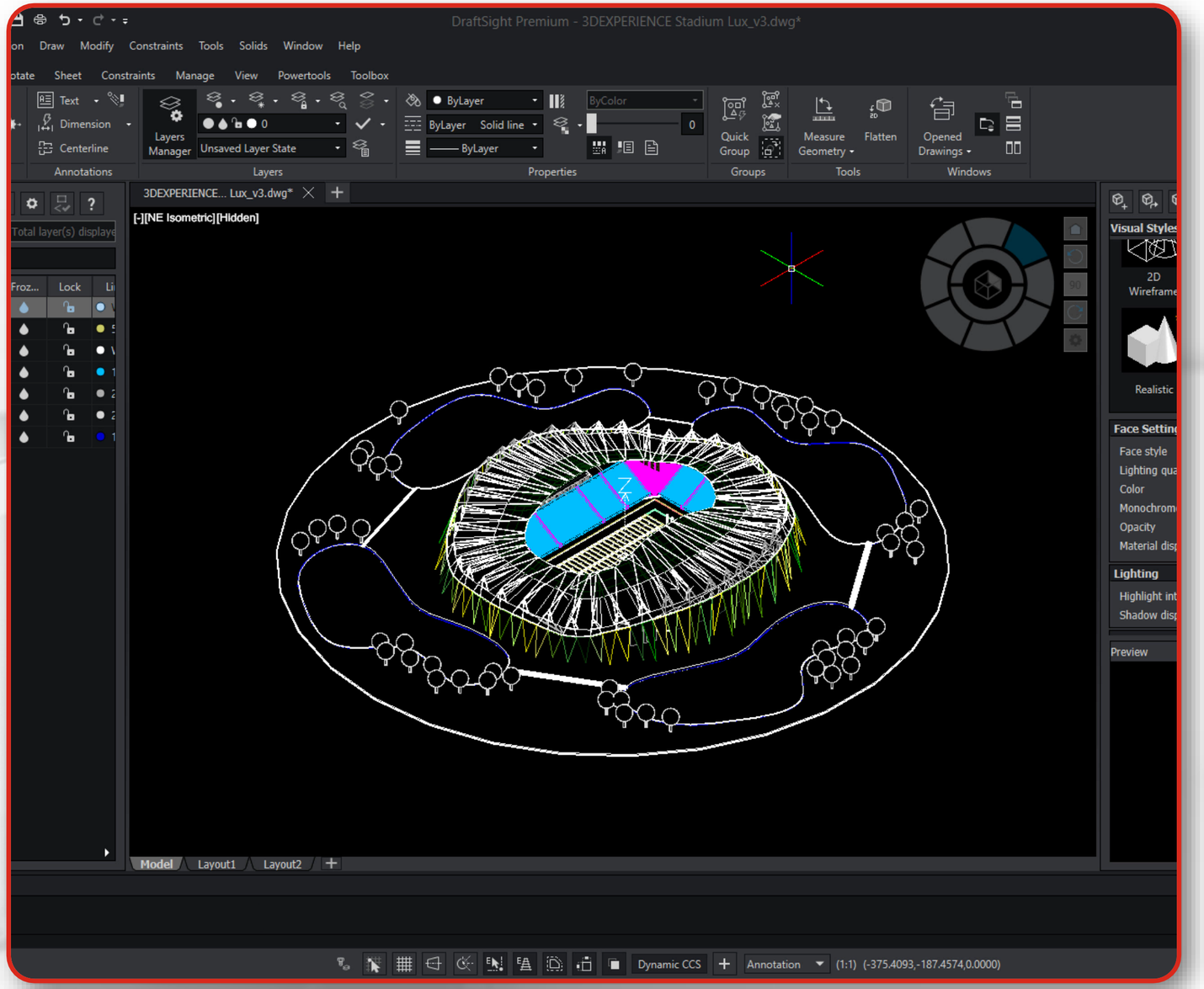
- Quickly adjust positioning and spacing of dimensions

Enhanced Tables

- Improved usability and productivity with support for auto-formulas, table breaks, & more

Dimension Style Manager

- Create, edit, and share your dimension styles from one convenient interface



WHAT'S NEW 2025 | DRAFTSIGHT

SOLIDWORKS

SOLIDWORKS Design

BEYOND 3D

UNIFIED SOLUTIONS

Governance

Manufacturing

Simulation

SOLIDWORKS Ultimate

3DEXPERIENCE® Works

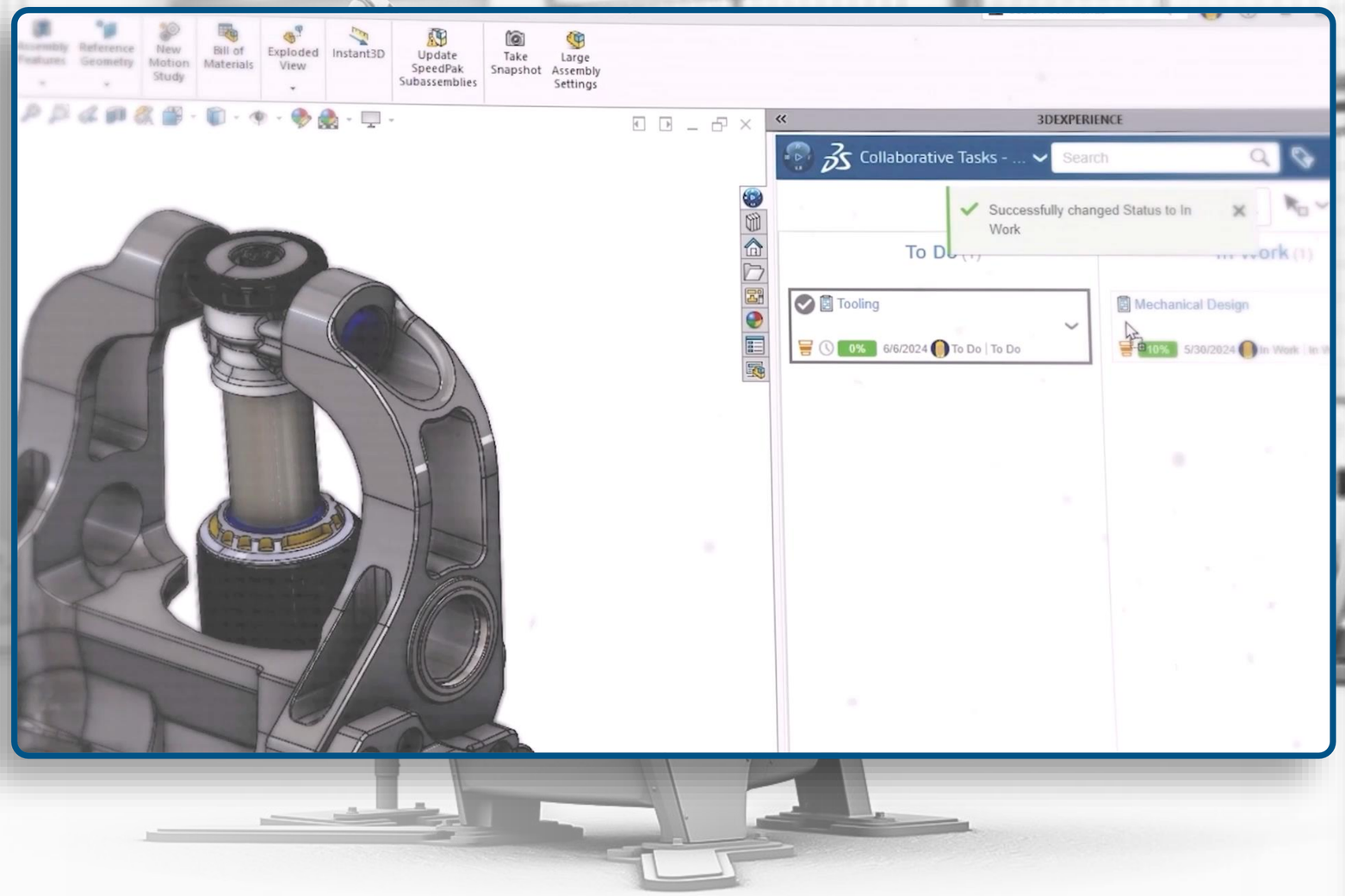
Cloud PLM Value Offer | Standard

Roles

- Project Planner
- Product Release Engineer

Key Capabilities

- Establish Clear Project Timelines
- Add Key Attachments and Deliverables
- Reduce errors and reworks though a single, shared engineered product definition/BOM
- Leverage data visualization with your 3D CAD models
- Add, remove, replace, compare items within your engineering BOM



SOLIDWORKS

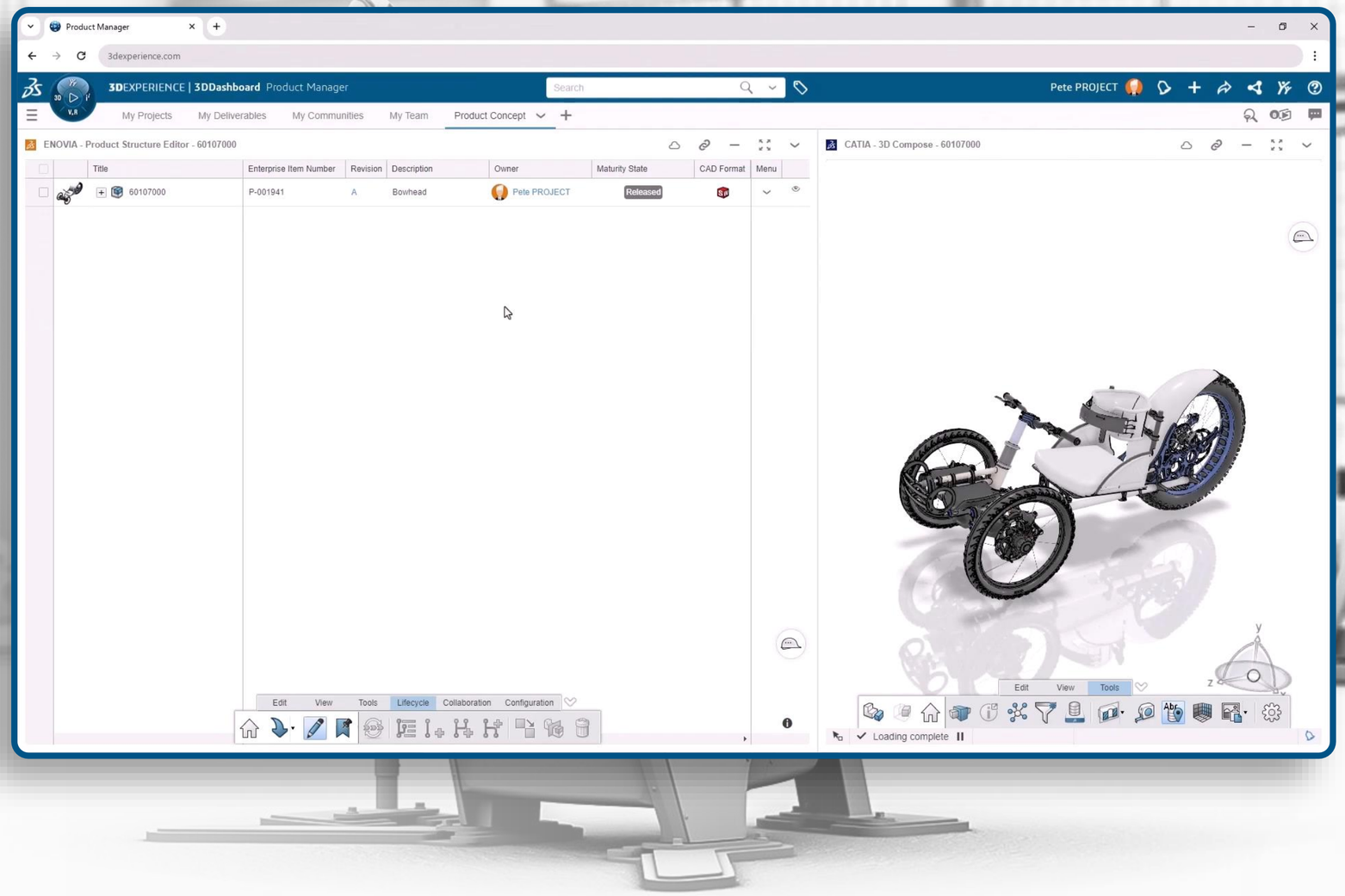
Cloud PLM Value Offer | Professional

Roles (Standard+)

- 3D Product Architect
- Change Manager

Key Capabilities

- Enable non-CAD users to mockup product designs in 3D
- Initiate new products through web-based digital mockups and collaborate on design reviews
- Execute change coordination under a single, repeatable methodology
- Improve change traceability



SOLIDWORKS

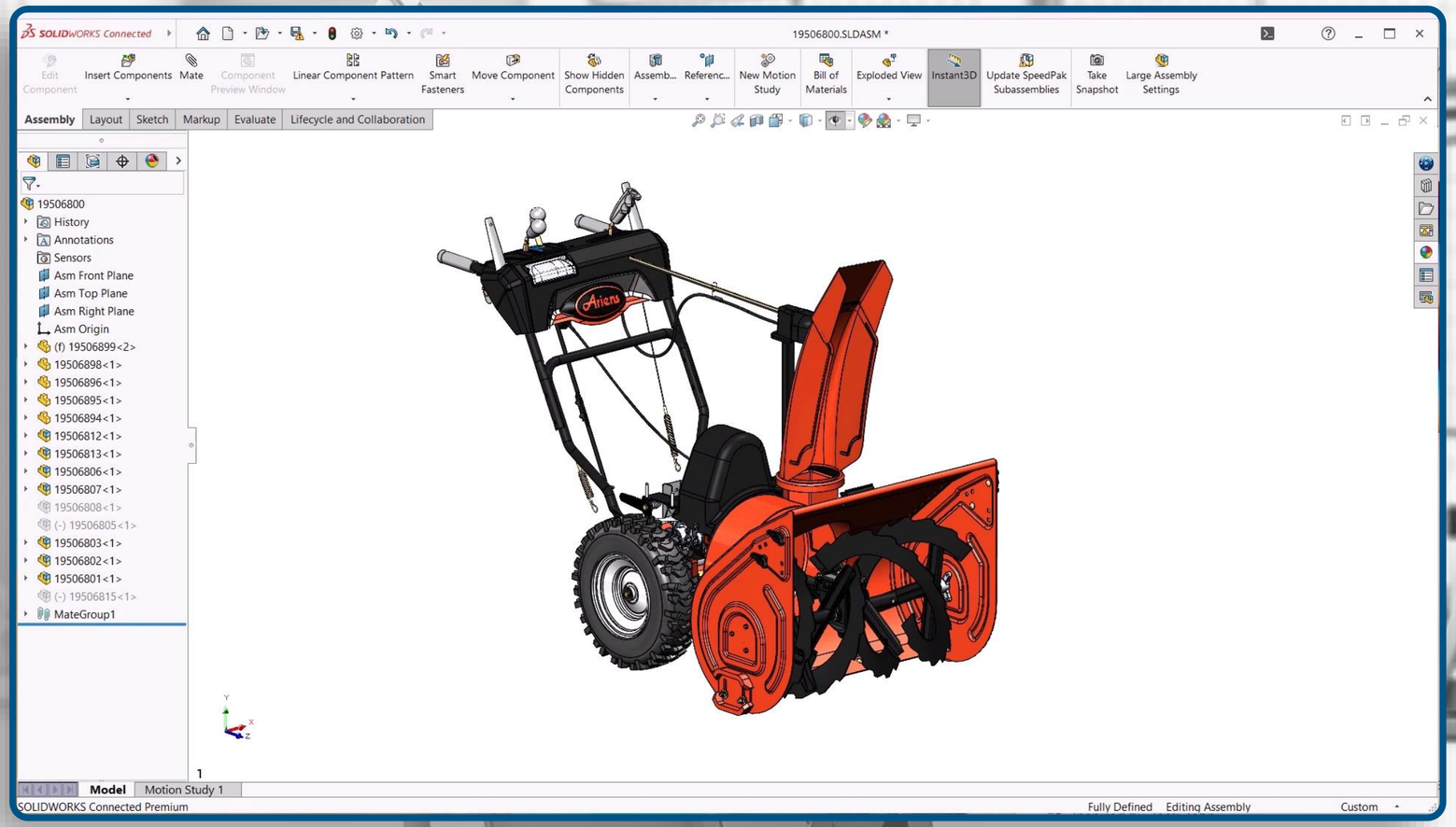
Cloud PLM Value Offer | Premium

Role (Professional+)

- Classification Manager
- Supply Network Manager
- Supplier Item Manager
- Enterprise Integration Architect

Key Capabilities

- Streamline supplier and component governance and improve traceability
- Promote and standardize on data reuse
- Connect your product definition with other systems



SOLIDWORKS

Governance

Manufacturing

Simulation

SOLIDWORKS Ultimate

3DEXPERIENCE® Works

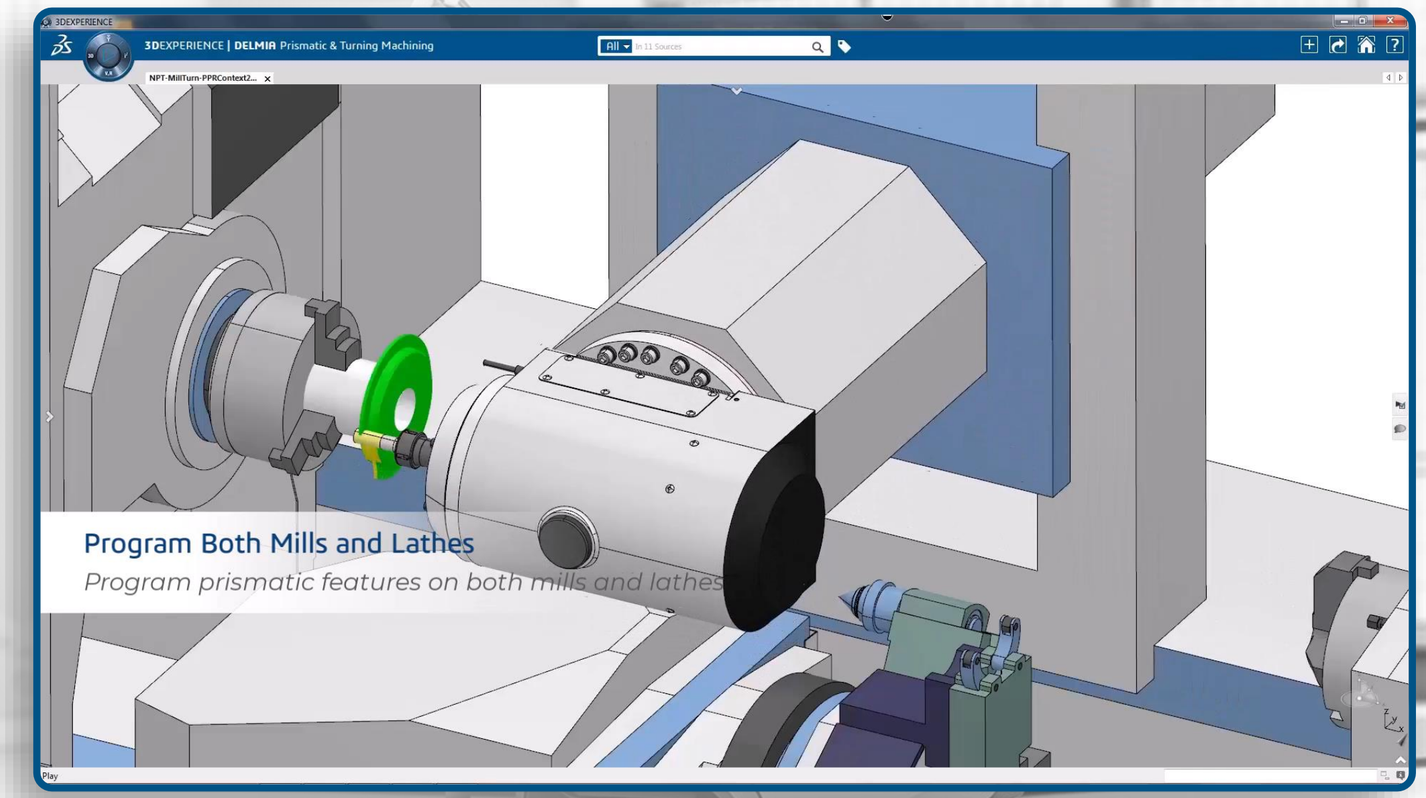
DELMIA Turning Professional

Roles

- Shop Floor Programmer
- NC Prismatic & Mill-Turn Machine Programmer
- NC Knowledge Manager

Key Capabilities

- Prismatic milling and turning
- High speed machining



3DEXPERIENCE® Works

DELMIA Milling Professional

Roles

- Shop Floor Programmer
- NC Mold and Die Programmer
- NC Knowledge Manager

Key Capabilities

- Full 5-axis milling
- Mold and die automation

3DEXPERIENCE® Works

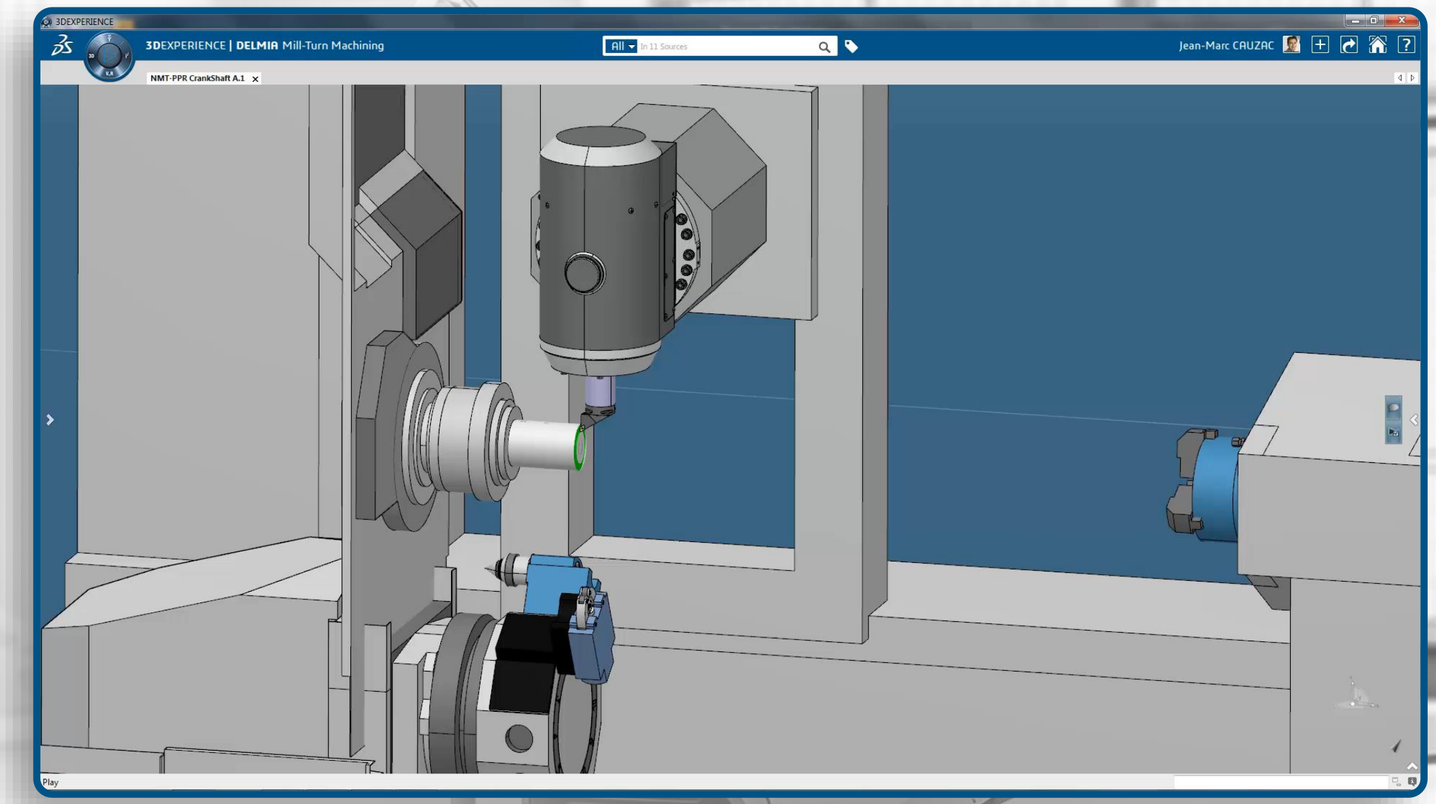
DELMIA Milling and Turning Premium

Roles

- Shop Floor Programmer
- NC Mill-Turn Machine Programmer
- NC Knowledge Manager
- Shop Floor Equipment Engineer

Key Capabilities

- Full 5 Axis Milling + Turning



3DEXPERIENCE® Works

Governance

Manufacturing

Simulation

SOLIDWORKS Ultimate

3DEXPERIENCE® Works

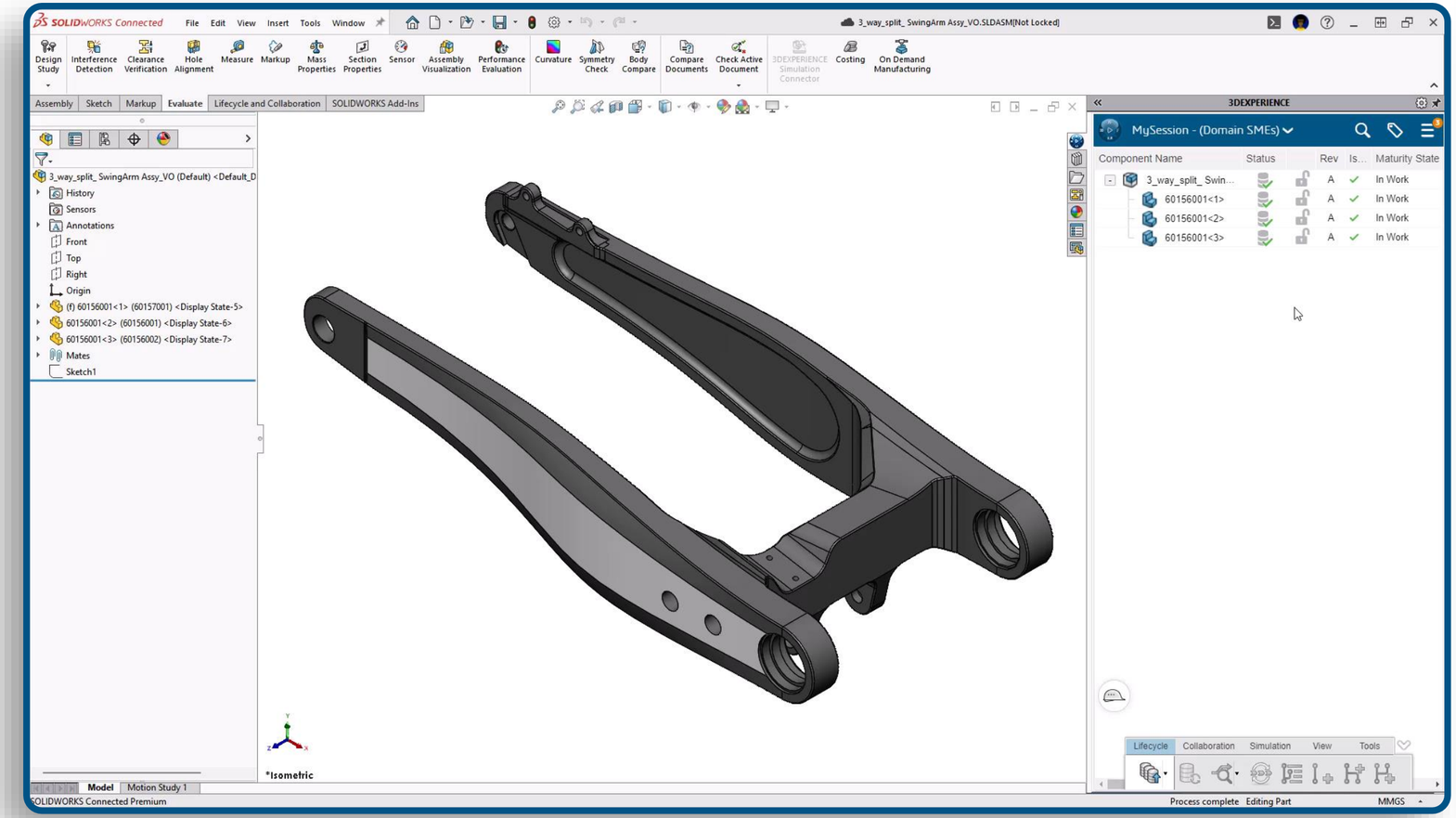
Simulation Designer Value Offer

Roles

- Structural Engineer
- Simulation Collaborator
- Extended storage
- Learners Role

Key Capabilities

- Analyze designs for linear static and dynamic stresses
- Seamlessly transfer your design from SOLIDWORKS
- Easy Setup
- Comprehensive material library
- Results visualization
- Share and collaborate



3DEXPERIENCE® Works

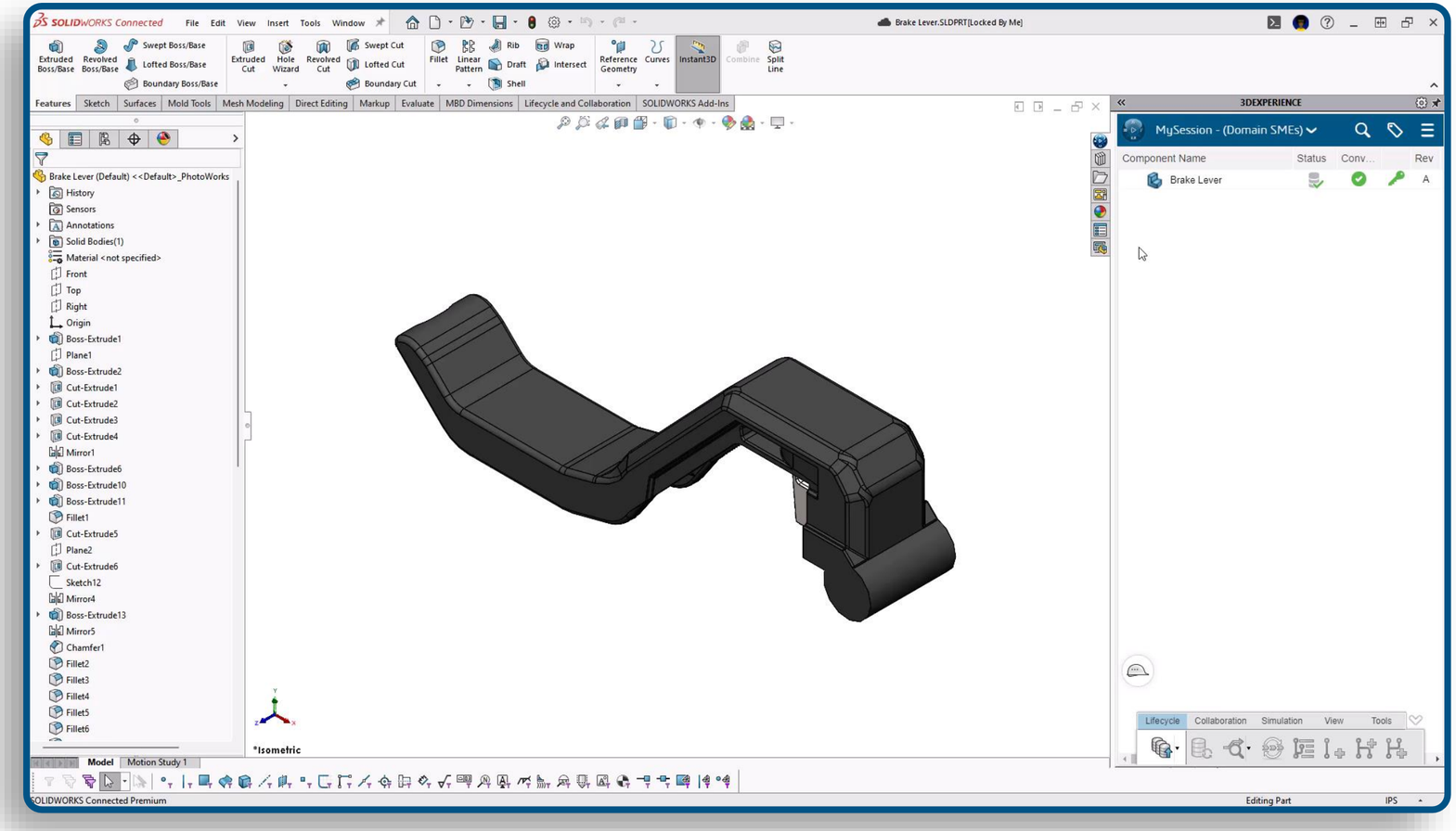
Simulation Engineer Value Offer

Roles

- Structural Performance Engineer
- Simulation Collaborator
- Extended storage
- Learners Role

Key Capabilities

- Investigate designs for non-linear behavior
- Create custom non-linear materials
- Create realistic loading conditions
- Results visualization
- Run iterations until design requirements are met



3DEXPERIENCE® Works

Simulation Analyst Value Offer [Explicit Dynamics]

Roles

- Durability & Mechanics Engineer
- Simulation Collaborator
- Extended storage
- Learners Role

Key Capabilities

- Investigate explicit dynamics events like drop tests
- Create realistic test scenarios
- Industry leading ABAQUS solver
- Animated results visualization

3DEXPERIENCE® Works

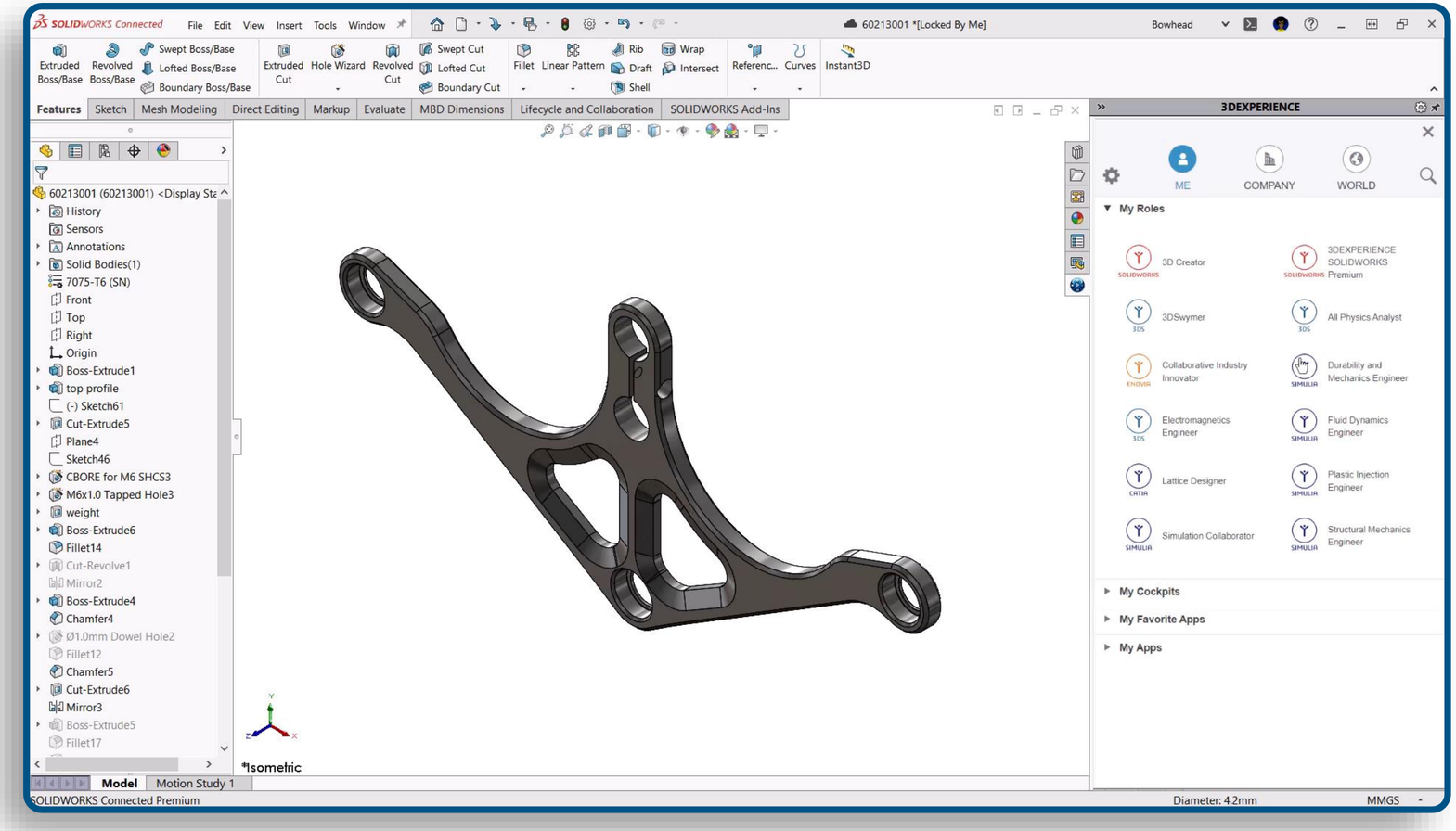
Simulation Analyst Value Offer [Durability]

Roles

- Durability & Mechanics Engineer
- Simulation Collaborator
- Extended storage
- Learners Role

Key Capabilities

- Investigate high cycle and low cycle fatigue
- Material library with fatigue data
- Apply fatigue loading conditions
- Investigate log of life and # of cycles



3DEXPERIENCE® Works

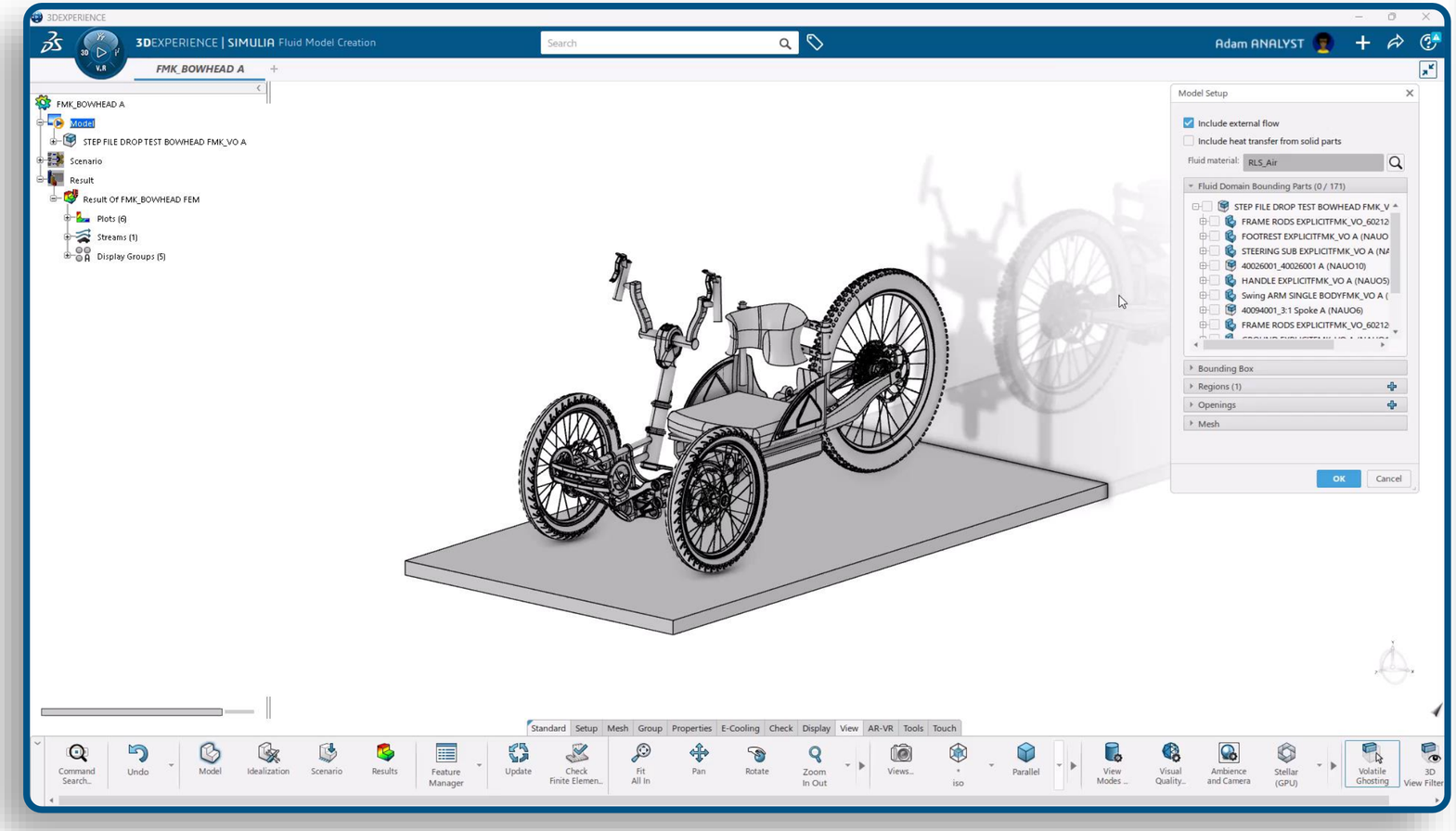
Simulation Multi-Physics Value Offer

Roles

- Fluid Dynamics Engineer
- Durability & Mechanics Engineer
- Simulation Collaborator
- Extended storage
- Learners Role

Key Capabilities

- Validate internal and external fluid flow problems
- Easily define boundaries and replicate flow scenarios
- Use body fitted mesh to solve large simulations
- Access high powered cloud computing
- Study free surface for fluids



3DEXPERIENCE® Works

Governance

Manufacturing

Simulation

SOLIDWORKS Ultimate

3DEXPERIENCE® Works

SOLIDWORKS ULTIMATE

DESIGN

- SOLIDWORKS Premium
- 3D Sculptor
- 3D Creator
- 3D Structure Creator
- 3D Sheet Metal Creator
- 3D Mold Creator
- Manufacturing Definition Creator

SIMULATE

- SOLIDWORKS Simulation Designer
- SOLIDWORKS Motion
- 3D Motion Creator
- Structural Designer

COLLABORATE

- 3DSWymer
- Project Planner
- Lean Team Player

MANAGE

- Collaborative Industry Innovator
- Product Release Engineer
- 3D Product Architect

MARKET

- SOLIDWORKS Visualize
- 3D Render
- Product Communicator
- 3D Demonstrator

MANUFACTURE

- NC Shop Floor Programmer

SOLIDWORKS ULTIMATE

DESIGN	SIMULATE	COLLABORATE	MANAGE	MARKET	MANUFACTURE
Robust and efficient design	SOLIDWORKS Simulation Designer SOLIDWORKS Motion 3D Motion Creator Structural Designer	3DSWymer Project Planner Lean Team Player	Collaborative Industry Innovator Product Release Engineer 3D Product Architect	SOLIDWORKS Visualize 3D Render Product Communicator 3D Demonstrator	NC Shop Floor Programmer

SOLIDWORKS ULTIMATE

DESIGN

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- 3D Mold Creator
- Manufacturing Definition Creator

SIMULATE

Make smarter decisions on every level

COLLABORATE

- 3DSWymer
- Project Planner
- Lean Team Player

MANAGE

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SIMULATE

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- SOLIDWORKS Motion
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- Structural Designer

COLLABORATE

Facilitate teamwork like never before

MANAGE

- Collaborative Industry Innovator
- Product Release Engineer
- 3D Product Architect

MARKET

- SOLIDWORKS Visualize
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MANUFACTURE

- NC Shop Floor Programmer

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- Structural Designer

COLLABORATE

- 3DSWymer
- Project Planner
- Lean Team Player

MANAGE

Built- in data management tools

MARKET

- SOLIDWORKS Visualize
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- Product Communicator
- 3D Demonstrator

MANUFACTURE

- NC Shop Floor Programmer

SOLIDWORKS

SOLIDWORKS ULTIMATE

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COLLABORATE

- 3DSWymer
- Project Planner
- Lean Team Player

MANAGE

- Collaborative Industry Innovator
- Product Release Engineer
- 3D Product Architect

MARKET

Create stunning visuals with ease

MANUFACTURE

- NC Shop Floor Programmer

SOLIDWORKS ULTIMATE

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- Collaborative Industry Innovator
- Product Release Engineer
- 3D Product Architect

MARKET

- SOLIDWORKS Visualize
- 3D Render
- Product Communicator
- 3D Demonstrator

MANUFACTURE

Cut lead times with world-class CAM solutions

SOLIDWORKS

SOLIDWORKS ULTIMATE

DESIGN

SOLIDWORKS Premium

3D Sculptor

3D Creator

3D Structure Creator

3D Sheet Metal Creator

3D Mold Creator

Manufacturing Definition Creator

SIMULATE

SOLIDWORKS Simulation Designer

SOLIDWORKS Motion

3D Motion Creator

Structural Designer

COLLABORATE

3DSWymer

Project Planner

Lean Team Player

MANAGE

Collaborative Industry Innovator

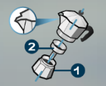
Product Release Engineer

3D Product Architect

MARKET

SOLIDWORKS Visualize

3D Render



Product Communicator

3D Demonstrator

MANUFACTURE

NC Shop Floor Programmer

SOLIDWORKS
3DEXPERIENCE® Works
WHAT'S NEW 2025