



**SOLIDWORKS**

# EXPERIENCE SOLIDWORKS 2025

Accelerate product development with hundreds of designer-driven enhancements

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

## EXPERIENCE SOLIDWORKS 2025

SOLIDWORKS® has been the industry-standard CAD tool for professional designers for more than 20 years, acclaimed for its ease of use, performance, and short learning curve.

SOLIDWORKS is also built by engineers and designers for engineers and designers. Decades of user-driven enhancements and a relentless research and development (R&D) focus on user experience have made SOLIDWORKS not just the industry favorite for product development, but both fun and easy to use.

And every year it gets better, thanks to you, our customers. Today it's still the go-to 3D CAD solution complete with cloud functionality — every new license includes Cloud Services that adds real-time collaboration and secure file management to your workflows.

SOLIDWORKS 2025 accelerates time to market with enhanced collaboration and data management; streamlined workflows for parts, assemblies, drawings, MBD, electrical and pipe routing, ECAD-MCAD collaboration, and rendering; and improved import/export, user experience, and performance features so you can design better, faster.

### INTRODUCTION

#### WHAT'S NEW IN DESIGN AND MODELING

#### PARTS

#### ASSEMBLIES

#### DRAWINGS

#### 3D DIMENSIONING AND TOLERANCING

#### ELECTRICAL AND PIPE ROUTING

#### ECAD – MCAD COLLABORATION

#### RENDERING

#### IMPORT/EXPORT

#### UX

#### PERFORMANCE

#### COLLABORATION AND DATA MANAGEMENT

#### WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

#### DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

#### EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

## WHAT'S NEW IN DESIGN AND MODELING

Accelerate design with improvements to part modeling, including the ability to rapidly select chamfer edges. Speed up design with the ability to copy assembly components along with their associated advanced and mechanical mates. Streamline the creation of tables in drawings with configuration tables and improvements to the bill of materials. Get to production faster by eliminating the need for 2D drawings with improvements to 3D dimensioning and tolerancing.



### INTRODUCTION

### WHAT'S NEW IN DESIGN AND MODELING

### PARTS

### ASSEMBLIES

### DRAWINGS

### 3D DIMENSIONING AND TOLERANCING

### ELECTRICAL AND PIPE ROUTING

### ECAD – MCAD COLLABORATION

### RENDERING

### IMPORT/EXPORT

### UX

### PERFORMANCE

### COLLABORATION AND DATA MANAGEMENT

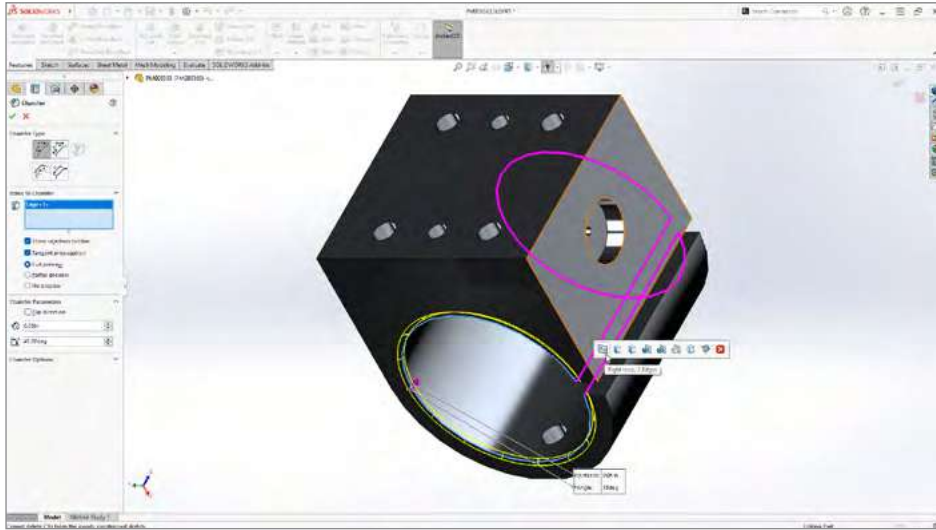
### WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

### DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

### EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

## PARTS

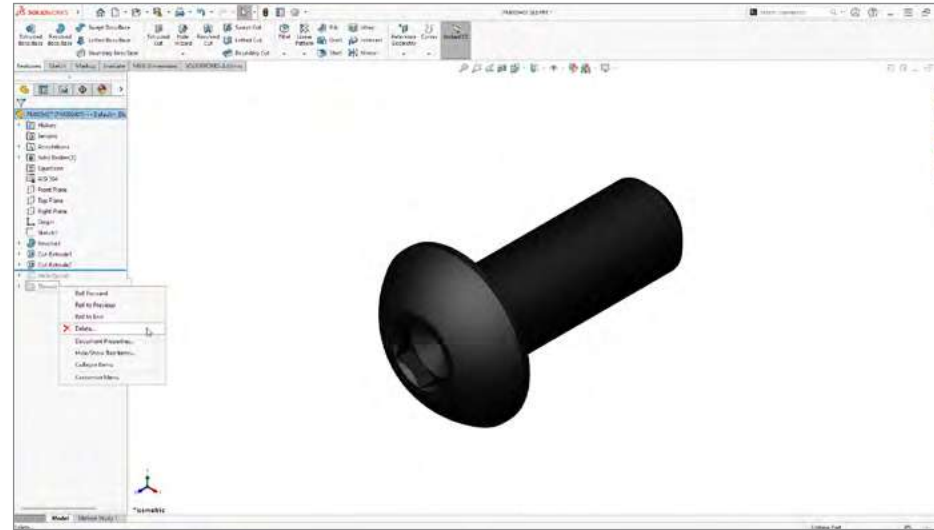
Automate part design with improvements to part modeling with a new selection accelerator for chamfers, the ability to delete items below the rollback bar, and more.



### New Selection Accelerator for Chamfers

There is a new Selection toolbar within the Chamfer command that enables you to automate selections for edges with Selection Accelerators. You can turn on the command to have it pick only outer or inner edges or edges outside of a face, or inner edges on extrusions. As you hover over the icons in the toolbar, they will show you all the ways you can select edges, saving you time compared to manually selecting edges.

This is similar to the capability that already exists when working with fillets. You'll find it will speed up and simplify your design process, allowing more room for you to design and innovate.



### Delete Items Below the Rollback Bar

Save time and eliminate mouse clicks by deleting items below the rollback bar from the FeatureManager® design tree without having to roll the bar forward. You can simply scroll down and delete the features you no longer need.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

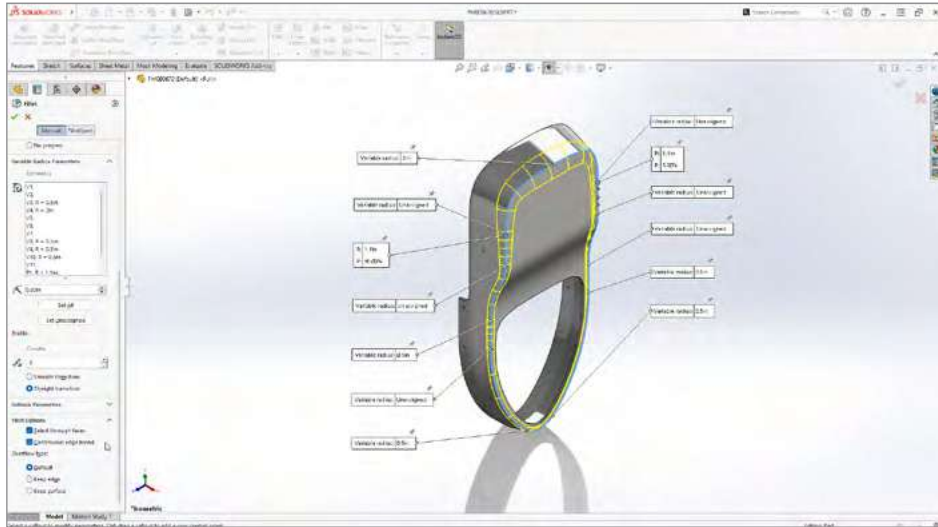
## COLLABORATION AND DATA MANAGEMENT

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

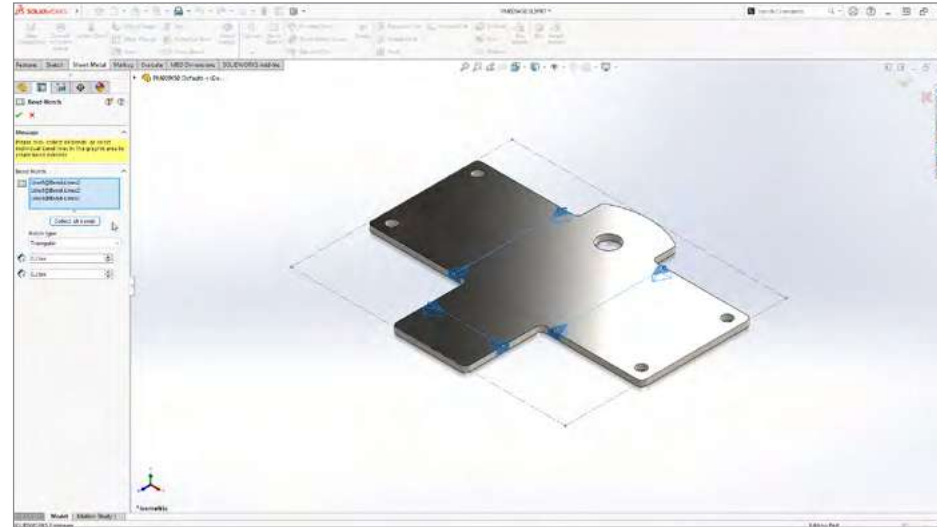
## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# PARTS



## Variable Fillet Chain

Smoothly integrate the radius parameters for a seamless blend with the new Continuous edge blend option for variable radius fillets.



## Sheet Metal Bend Notch

Improve the manufacturability of your designs with the Sheet Metal Bend Notch. Sheet metal functionality has been expanded to offer the ability to automatically create customizable bend notches on the flat pattern bend line of a sheet metal part.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

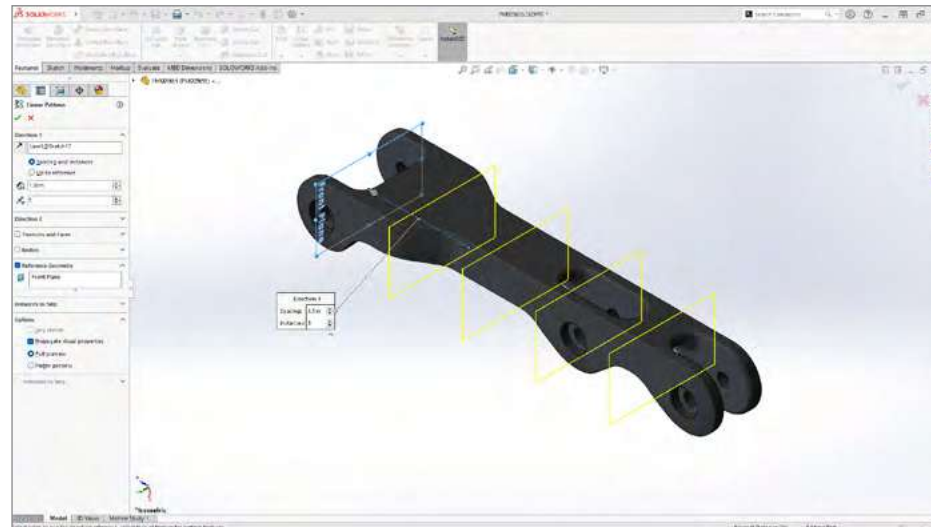
COLLABORATION AND DATA MANAGEMENT

WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# PARTS



## Pattern Reference Geometry

Improve skeleton model creation and create more flexible designs by patterning reference geometry such as planes and axes. Leverage linear patterns to easily create planes and axes.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

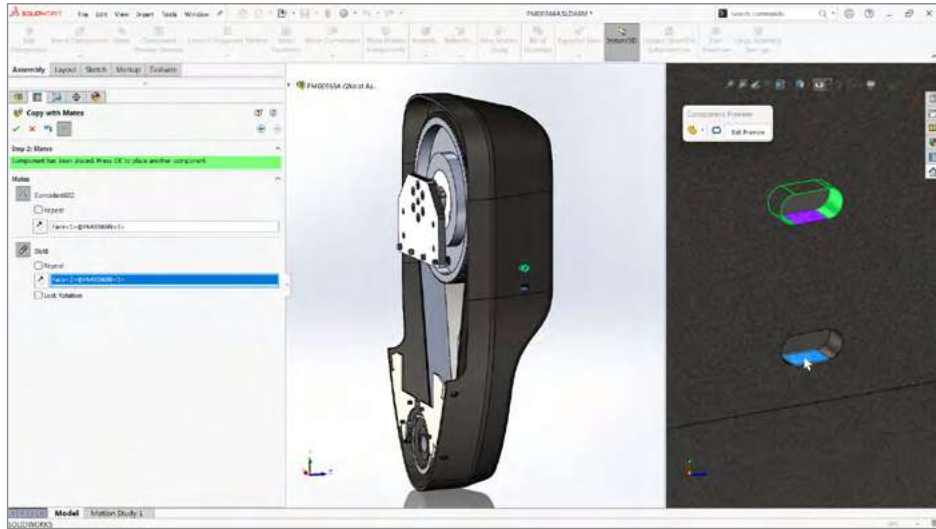
WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

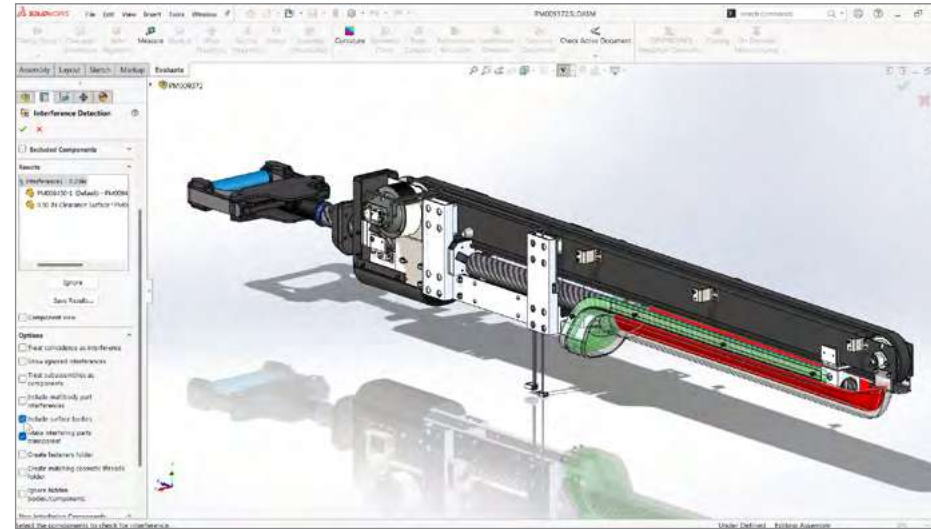
# ASSEMBLIES

Speed up assembly design with the ability to copy assembly components along with their associated advanced and mechanical mates. Check interferences even if components contain surface geometry only.



## Copy Assembly Components Along With Their Associated Advanced and Mechanical Mates

Preserve design intent and speed up assembly creation with the ability to copy assembly components along with their associated advanced and mechanical mates.



## Interference Checking for Surface Bodies

Detect intersections between solids and surfaces, as well as between just surfaces.

Be confident that all interferences have been found even when working with open and non-watertight geometry, sometimes found in imported geometry.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

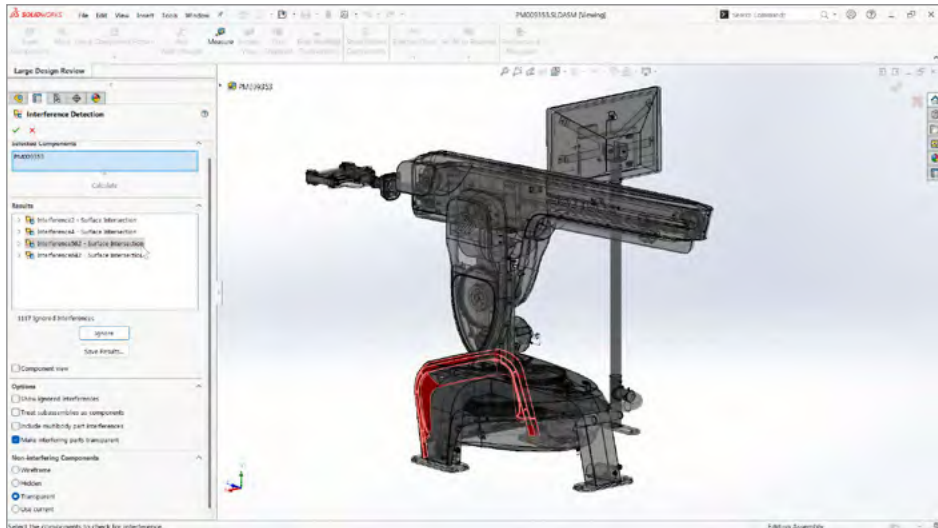
COLLABORATION AND DATA MANAGEMENT

WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

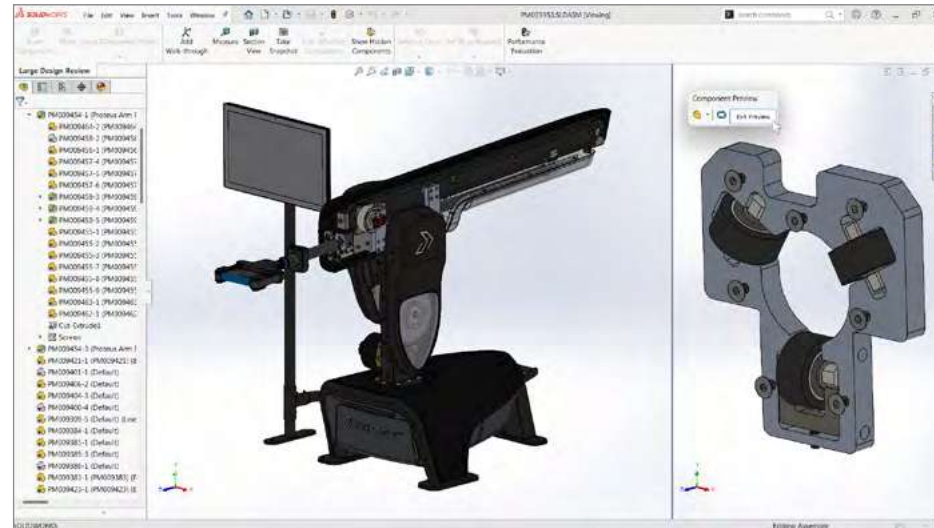
EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# ASSEMBLIES



## Interference Detection in Large Design Review Mode (LDR)

Check the manufacturability of your design faster with interference detection in LDR mode. Switch to LDR mode to turbocharge your computer to work with assemblies faster.



## Seamless Transition Between LDR and Edit Part

Start editing right away without having to preselect to go into LDR Edit mode.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

## COLLABORATION AND DATA MANAGEMENT

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

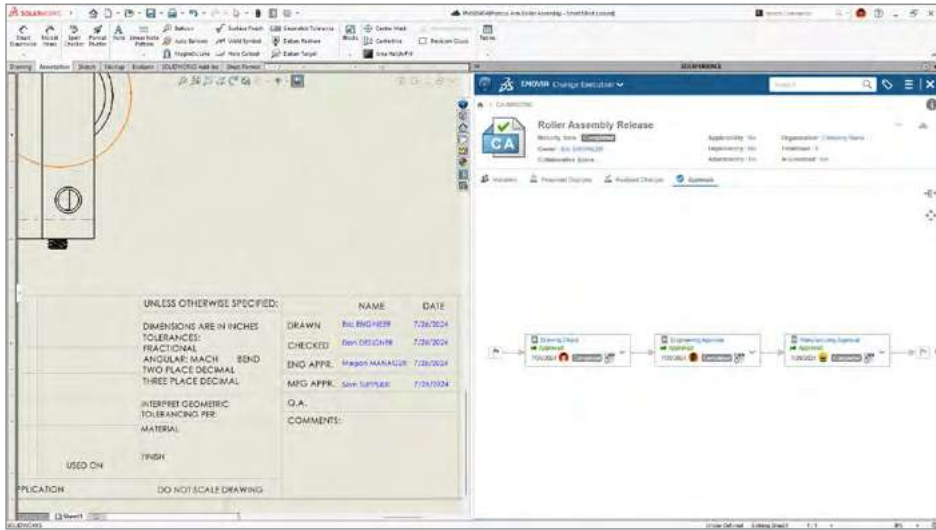
## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS



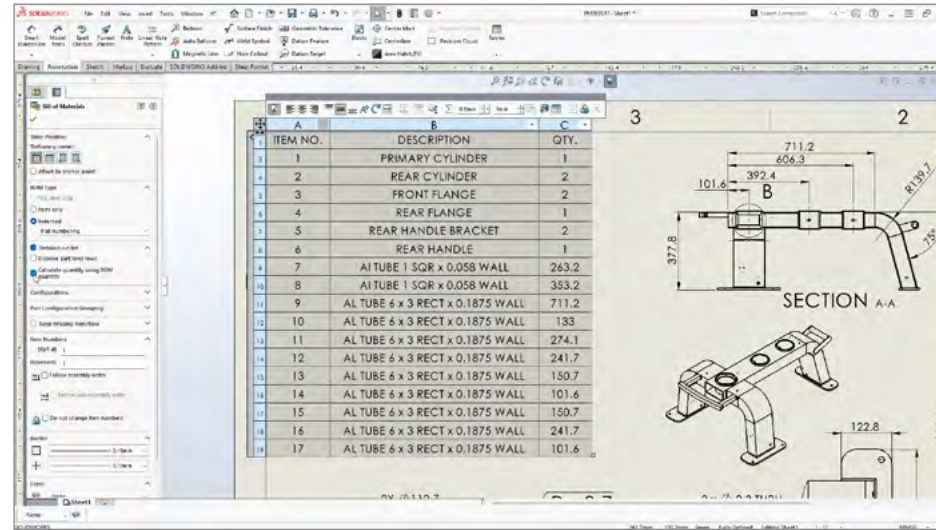
# DRAWINGS

Speed up drawing creation and ensure standardization with the latest drawing enhancements.



## Multi-Approval Stamps

Enforce company rules with multi-approval stamps anytime, on any connected device



## BOM Quantity Override for Detailed Cut Lists

Gain more flexibility for detailed cut lists that appear in a BOM table. In the bill of materials PropertyManager, you can choose an option to display the quantity for structural members in the BOM table as QUANTITY or LENGTH x QUANTITY using a new option.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

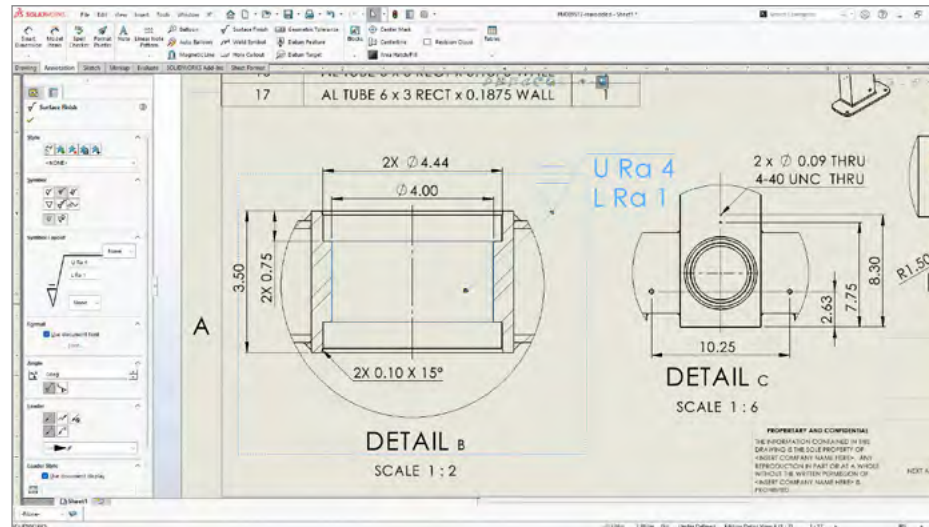
## COLLABORATION AND DATA MANAGEMENT

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# DRAWINGS



## Surface Finish Symbols

Ensure standardization with the ability to create surface finish symbols in compliance with ISO 21920.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

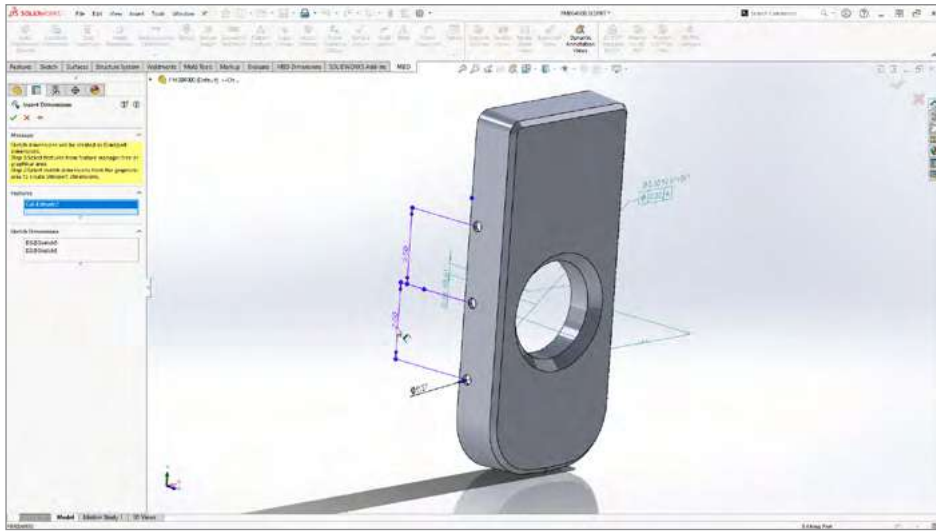
WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

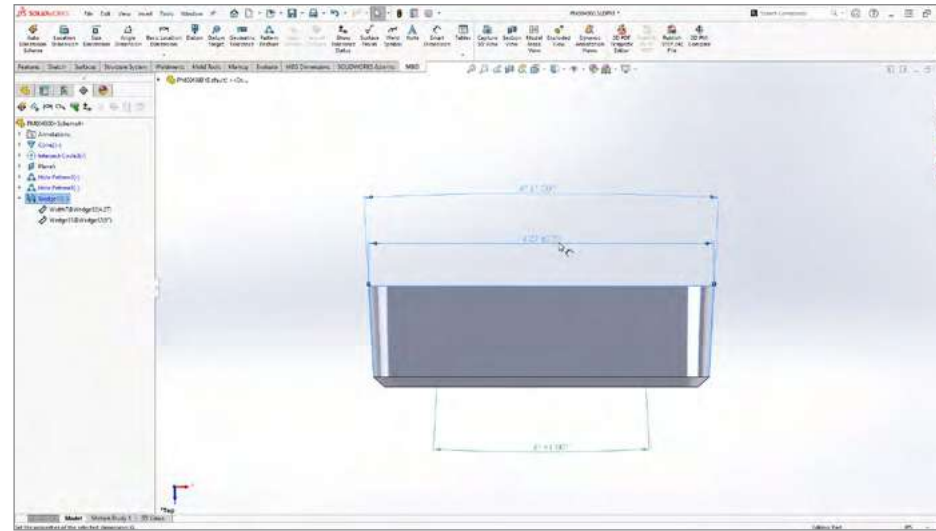
## 3D DIMENSIONING AND TOLERANCING

Experience more flexible 3D dimensioning and tolerancing and get to production faster by eliminating the need for 2D drawings. Now you can create DimXpert™ dimensions from sketch/feature dimensions and get support for automatic draft dimensioning.



### Create DimXpert Dimensions From Sketch Dimensions

Use the intelligence built into sketches to automatically define model-based dimensions.



### Dimension Support for Drafted Features

Easily document and define drafted features with dimensions and tolerances using new DimXpert capabilities.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

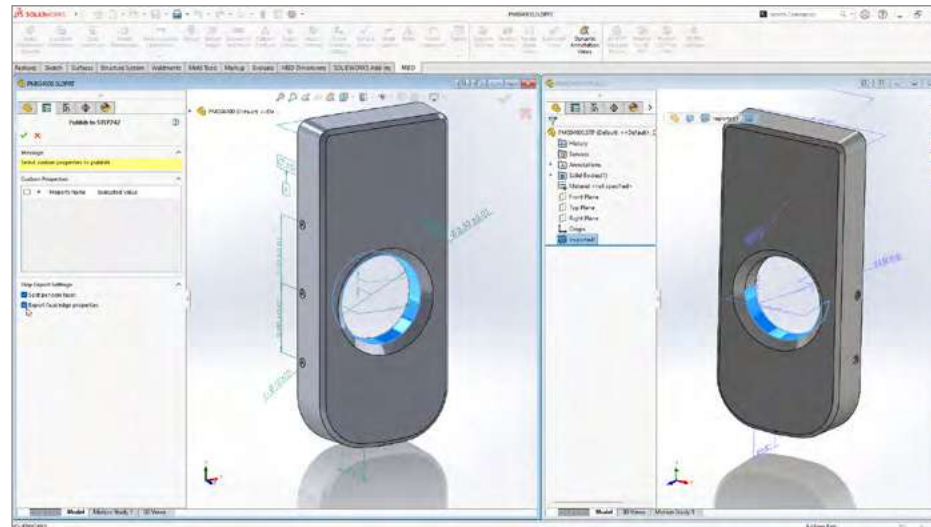
COLLABORATION AND DATA MANAGEMENT

WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# 3D DIMENSIONING AND TOLERANCING



## 3D Interconnect STEP 242 Export Controls

Communicate product manufacturing information (PMI) downstream with increased flexibility and control with new STEP 242 export settings.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

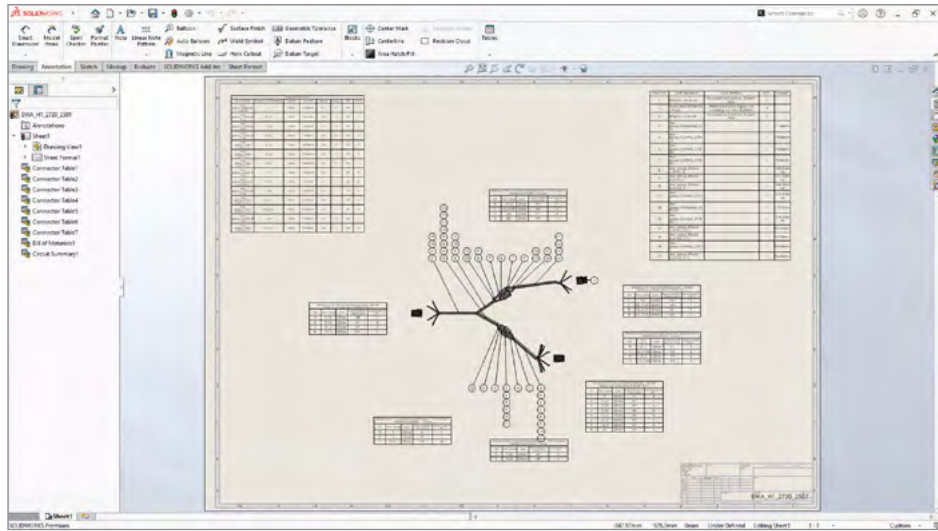
WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

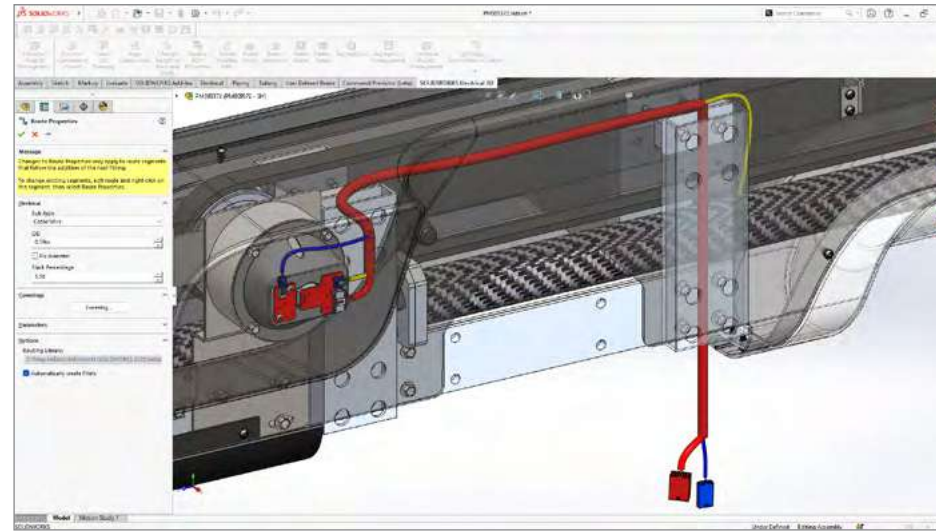
## ELECTRICAL AND PIPE ROUTING

Accelerate the creation of manufacturing documentation with the ability to create improved harness board drawings, assign a slack percentage for extra wire/cable lengths, and establish the initial placement of electrical components in a subassembly.



### Create Improved Harness Board Drawings From 3D Routes

Harness board drawing enhancements include improved auto-placement of tables, dimensions, balloons, and formats.



### Slack Percentage Can Now Be Document- and Segment-Specific Route

Assign a slack percentage to documents and routes to enable planning extra wire/cable lengths for manufacturing.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

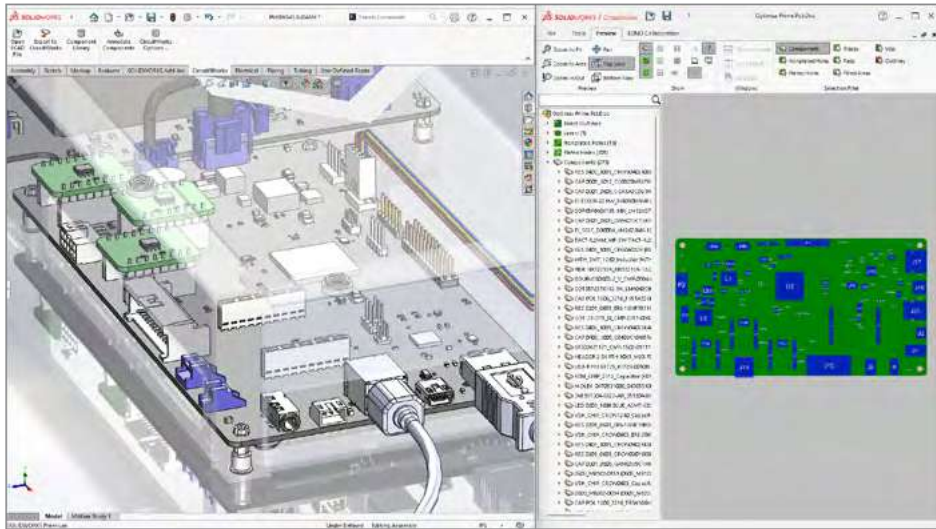
WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

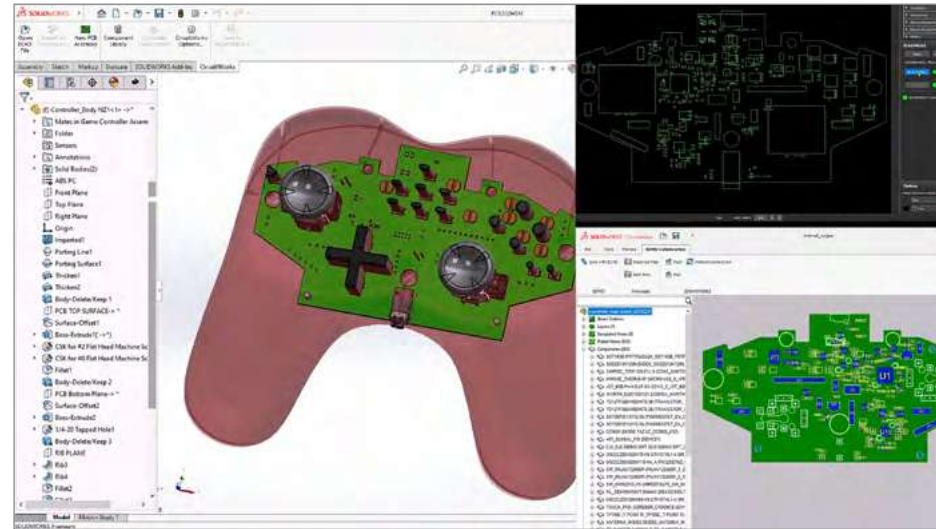
## ECAD – MCAD COLLABORATION

Streamline ECAD-MCAD collaboration with an improved user experience in CircuitWorks™, complete with a new UI and ability to accept PCB outline changes, and the ability to make board modifications from either the MCAD side or the ECAD side.



### CircuitWorks Available for All SOLIDWORKS Roles

Use CircuitWorks in all **3DEXPERIENCE®** SOLIDWORKS roles. Previously, it was available only in **3DEXPERIENCE** SOLIDWORKS Professional and Premium. Gain unrestricted access to CircuitWorks and greater flexibility in circuit board design workflows.



### Support Board Outline and Cutouts Modification From ECAD

Make board modifications from either the MCAD side or the ECAD side, and the other party can accept or reject changes. Modify the PCB's outline to suggest changes to both MCAD and ECAD, enabling a bidirectional collaboration that streamlines ECAD and MCAD design.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

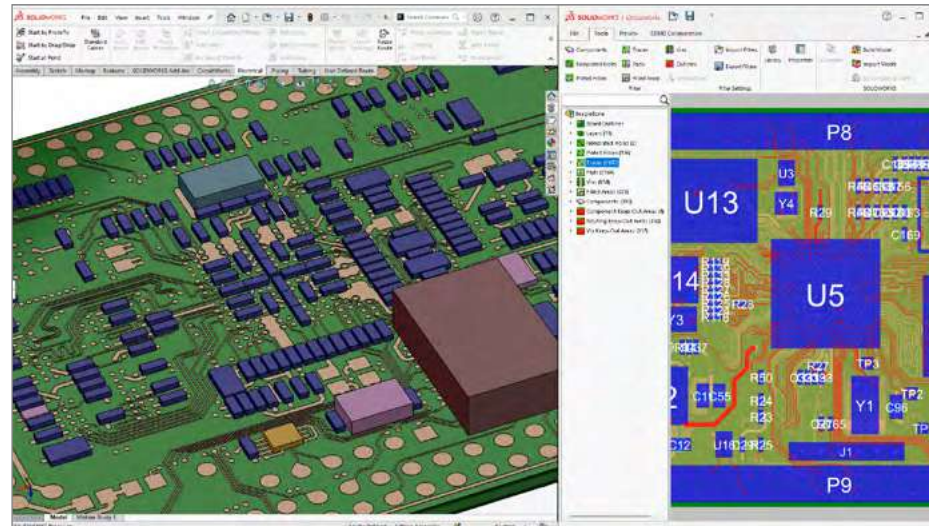
## COLLABORATION AND DATA MANAGEMENT

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# ECAD – MCAD COLLABORATION



## Copper Trace Support for ECAD-MCAD in SOLIDWORKS

CircuitWorks now processes copper trace data from ECAD to SOLIDWORKS, resulting in an accurate materials stackup in the printed circuit board. Thin copper pathways, called traces, and holes plated in copper, called vias, on the many layers of a PCB act like wires to connect all the components seen on the top and bottom of the board. Access all copper geometry in SOLIDWORKS, enabling proper mass, thermal, structural, shock, and electromagnetic analyses.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

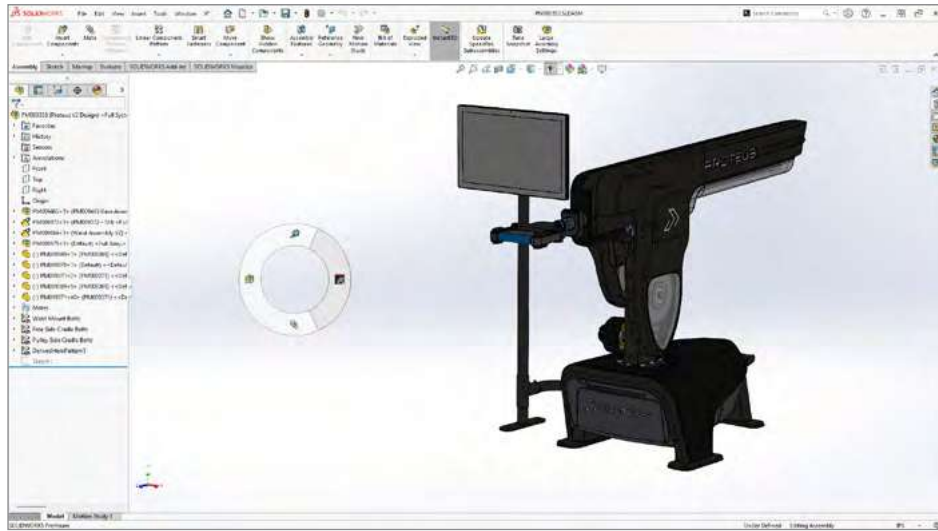
WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

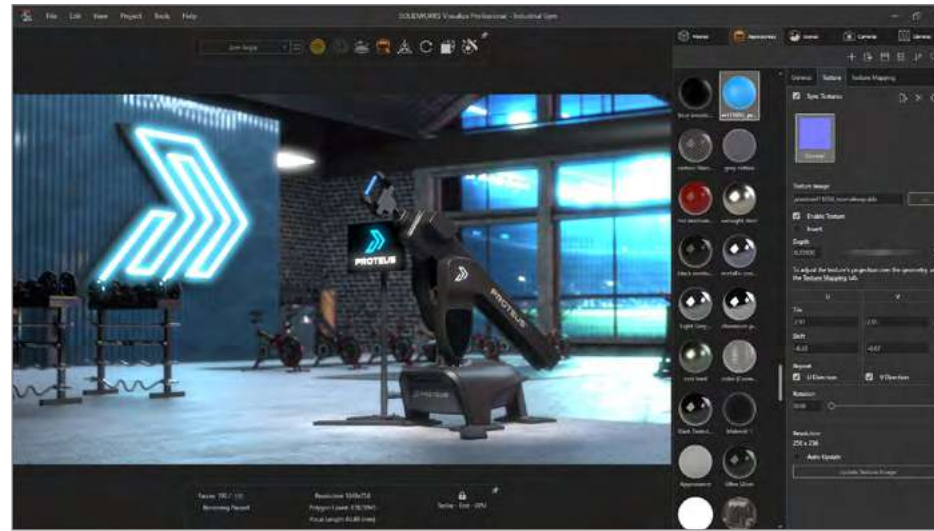
# RENDERING

Improve output with immersive rendering. Leverage the latest advancements in GPU technology with real-time, interactive ray tracing. Generate high-quality 3D assets on any device with the ability to export glTF™ files.



## Photorealistic Rendering With Visualize via the SOLIDWORKS API

Automate the creation of photorealistic renderings by leveraging SOLIDWORKS Visualize with the SOLIDWORKS API.



## Fast Mode Rendering With Dassault Systèmes Physically Based Rendering (DSPBR) Engine

Take advantage of the latest advancements in GPU technology with real-time, interactive ray tracing based on the open-standard Vulkan API for 3D graphics and computing.

### INTRODUCTION

### WHAT'S NEW IN DESIGN AND MODELING

### PARTS

### ASSEMBLIES

### DRAWINGS

### 3D DIMENSIONING AND TOLERANCING

### ELECTRICAL AND PIPE ROUTING

### ECAD – MCAD COLLABORATION

### RENDERING

### IMPORT/EXPORT

### UX

### PERFORMANCE

### COLLABORATION AND DATA MANAGEMENT

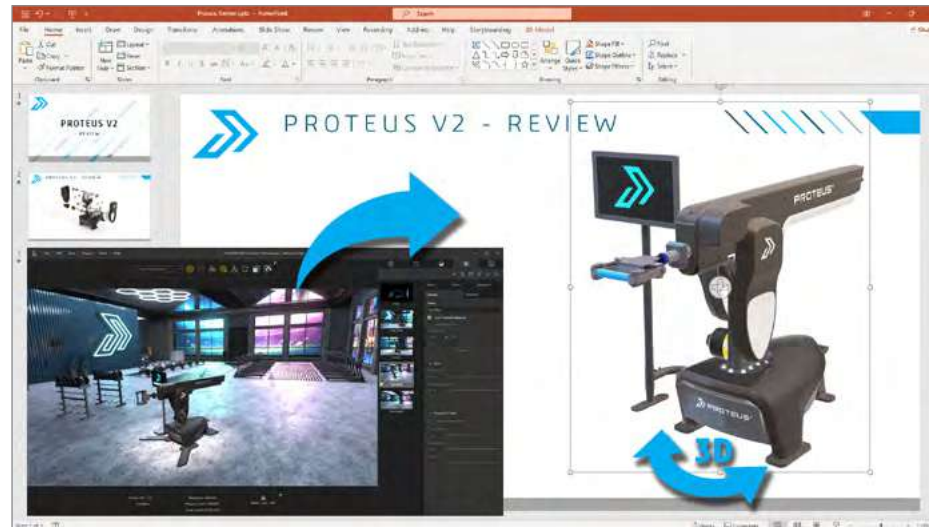
### WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

### DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

### EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS



# RENDERING



## File Export Formats — glTF File Formats Support the Exporting of DSPBR Appearance Parameters

glTF file formats support the exporting of DSPBR appearance parameters. Provide a reliable way to generate high-quality 3D assets with a consistent experience on any device, such as a mobile phone or tablet, with the ability to export SOLIDWORKS Visualize\* data as glTF. The glTF file format exports DSPBR parameters and associated textures, such as Albedo, Metallic, Roughness, Alpha, and Normal.

\*SOLIDWORKS Visualize Professional is included in **3DEXPERIENCE SOLIDWORKS**.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

## COLLABORATION AND DATA MANAGEMENT

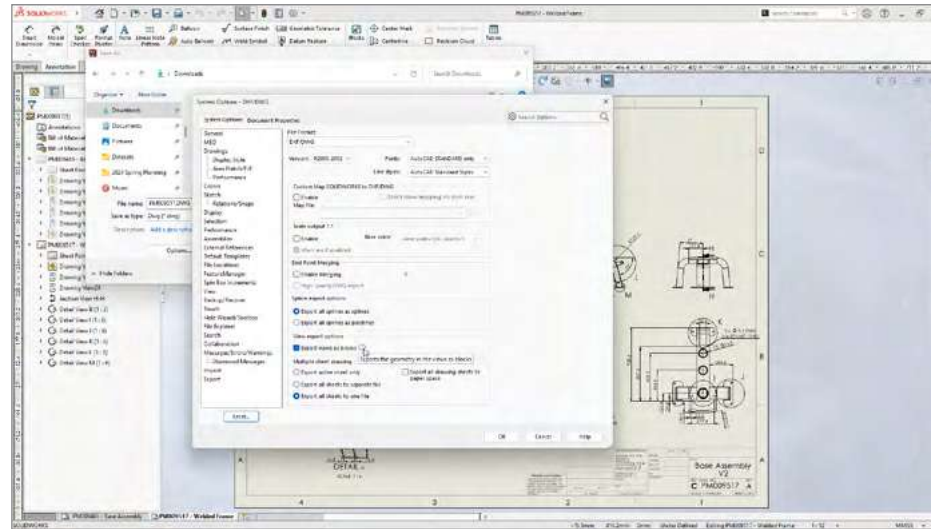
## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

## IMPORT/EXPORT

Export drawing views as blocks for faster use downstream. Improve the clarity of IFC output for buildings and factories, import 3MF files containing lattice structures with the option of displaying fully detailed geometry or a simple graphic representation.



### Export Drawing Views as Blocks

Export drawing views as blocks for faster and simpler manipulation and use in downstream DXF™/DWG applications. Ensure easy import and use of exported data in downstream applications for design and manufacturing.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

## COLLABORATION AND DATA MANAGEMENT

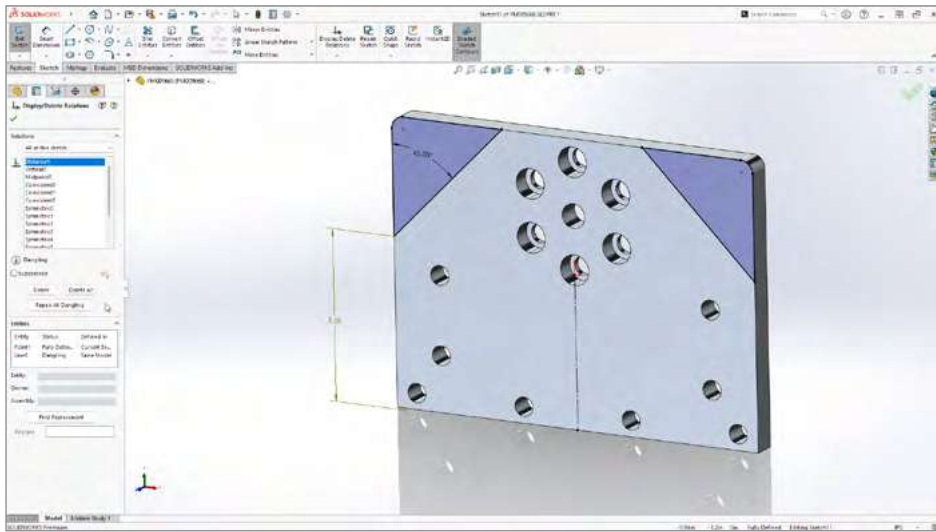
## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

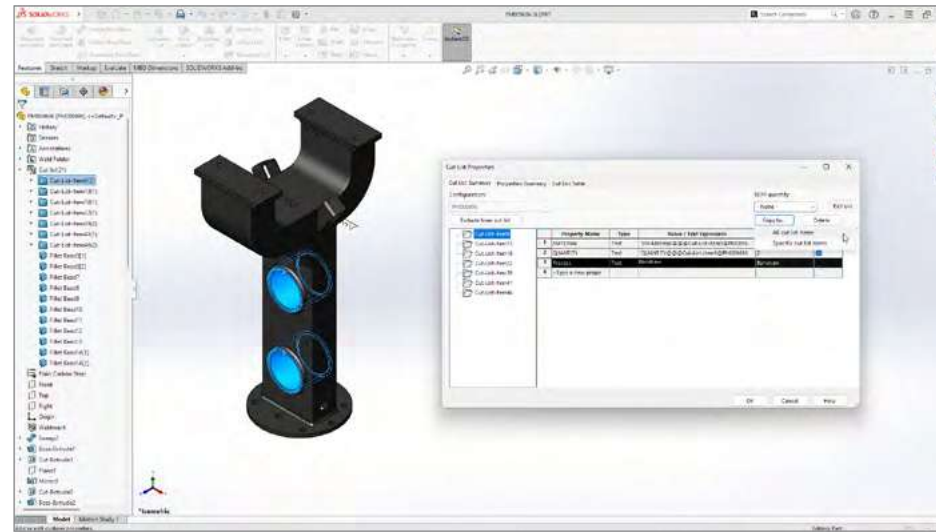
# UX

Streamline the correction of sketches with broken dimensions due to missing references. Get up to speed faster and streamline day-to-day design with user enhancements aimed at reduced clicks, including the ability to copy cut list properties to other weldment members, select from breadcrumbs in LDR mode, and measure the angular rotation between coordinate systems.



## Reattach Broken Sketch Dimensions

If a sketch relation has a missing reference, such as a face, edge, plane, or axis, SOLIDWORKS will check if there is an appropriate alternate reference. If there is, it will give you the option to automatically select that reference.



## Copy Cut List Properties to Cut List Items

Streamline the creation of cut list properties by creating and copying the cut list property to specific cut list items, or to all cut list items in a model.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

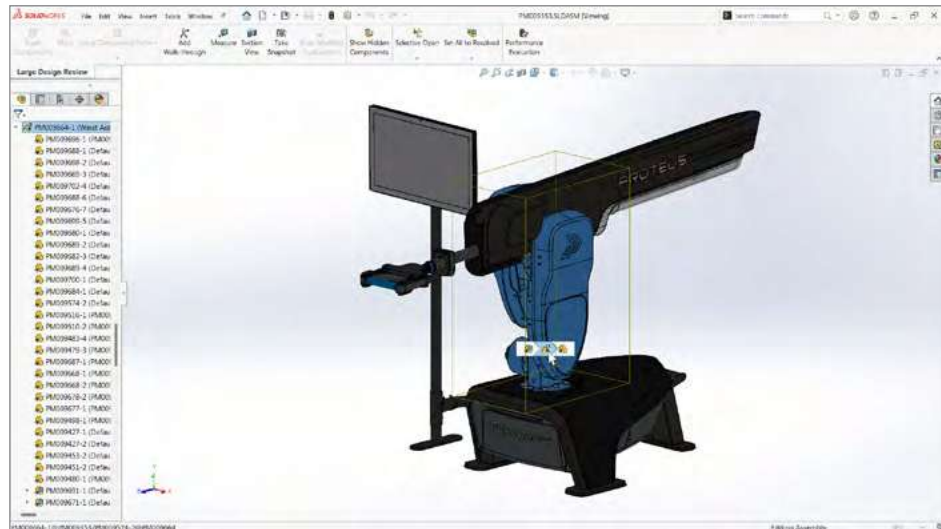
## PERFORMANCE

## COLLABORATION AND DATA MANAGEMENT

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

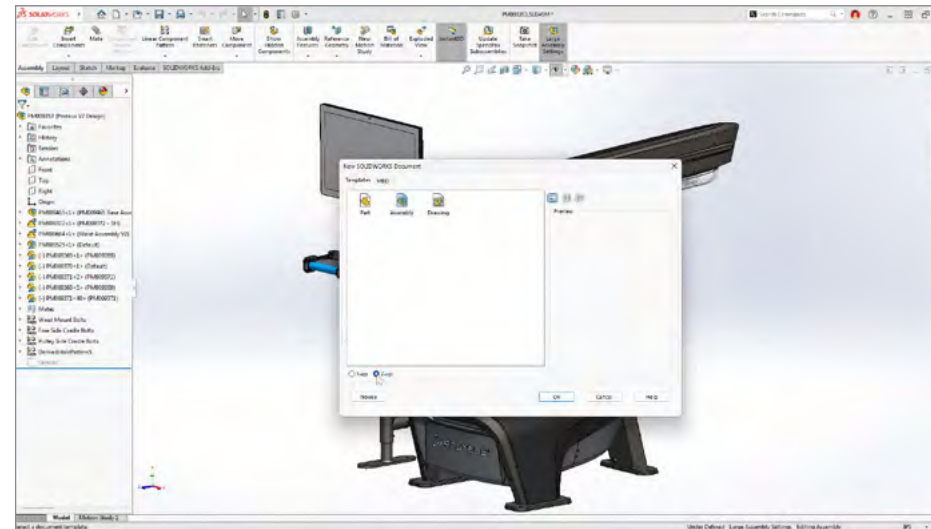
## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS



**Breadcrumbs Selection Available in LDR Mode**

Use breadcrumbs when opening a model in LDR mode. Speed up the editing of an assembly in LDR mode with the breadcrumbs selection that makes the hierarchy of a selection clearer.



**Z-up Orientation Templates for People Who Like to Work in Z-up**

Set your default template to either y-axis up or z-axis up, according to your preference for the coordinate system orientation of your parts and assemblies.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

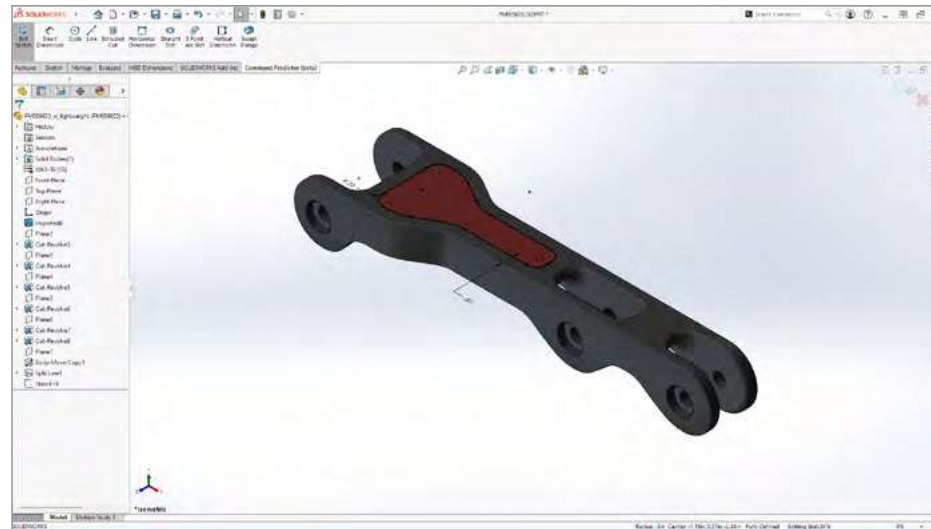
PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS



**AI Command Prediction**

Improve productivity and design quality by letting AI predict your next command. This new functionality is provided as a technology preview (Beta).

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

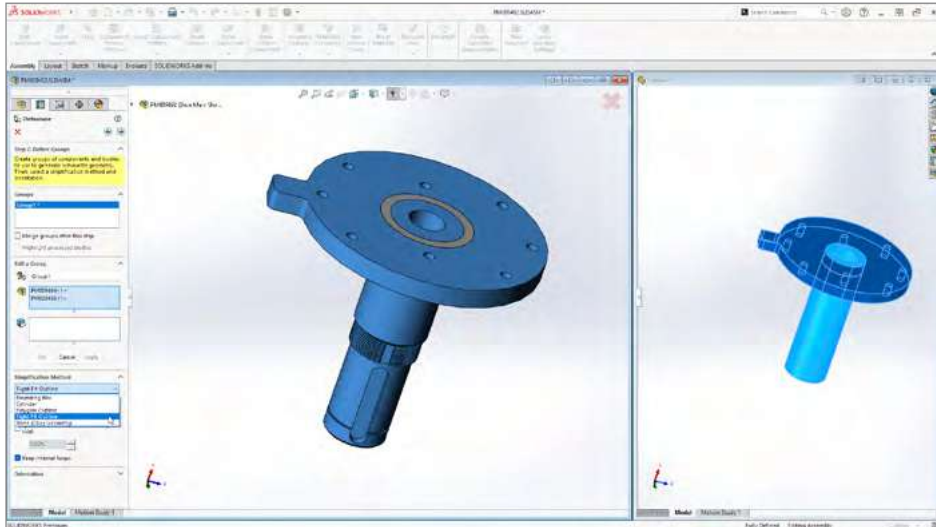
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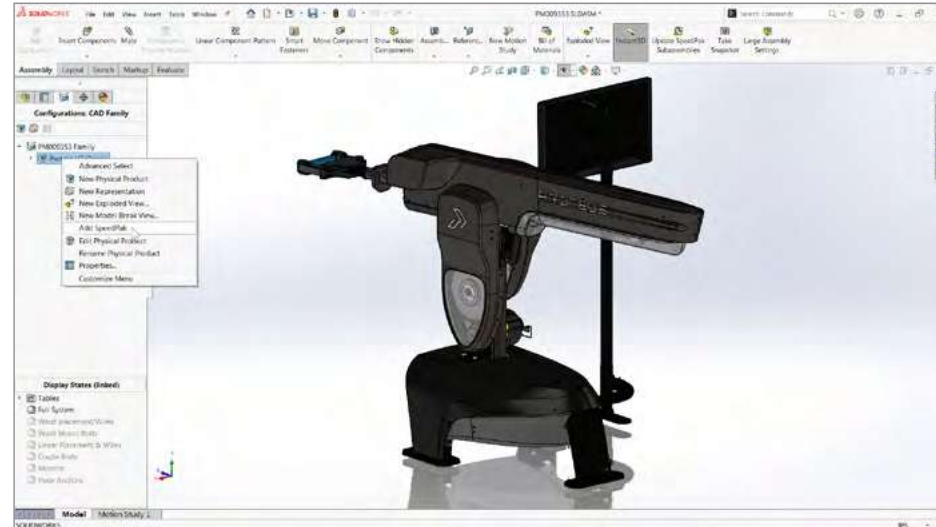
## PERFORMANCE

Streamline large assembly design with the ability to open and save large models faster, simplify part geometry using the Silhouette defeature method, and create a SpeedPak configuration at the top level of the assembly. Speed up the calculation of mass properties for assemblies with previously calculated values for parts and bodies.



### Rapid Part Simplification

Create a highly simplified part and make it associative to the parent part by using the Silhouette defeature method.



### SpeedPak Configuration at the Top Level of an Assembly

Simplify assemblies faster and more flexibly with the ability to create a SpeedPak configuration at the top level of the assembly without the need to modify subassemblies.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

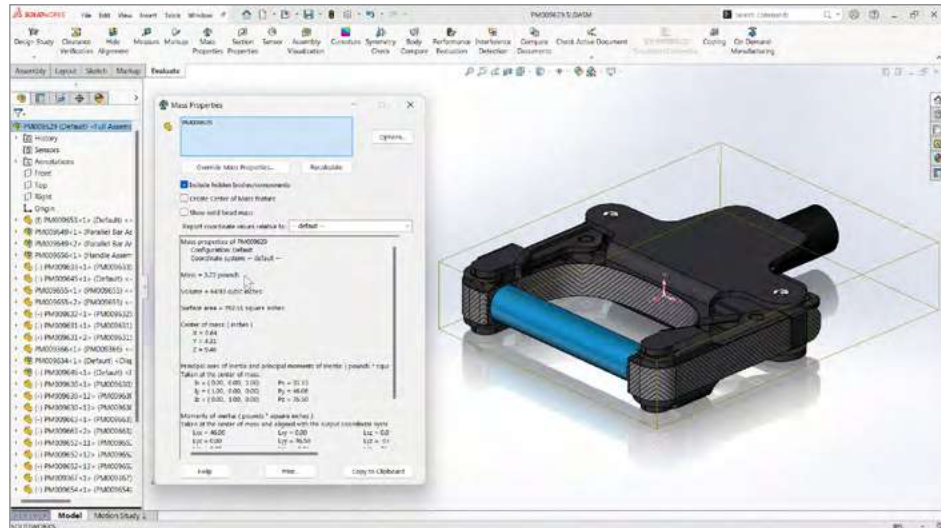
## COLLABORATION AND DATA MANAGEMENT

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

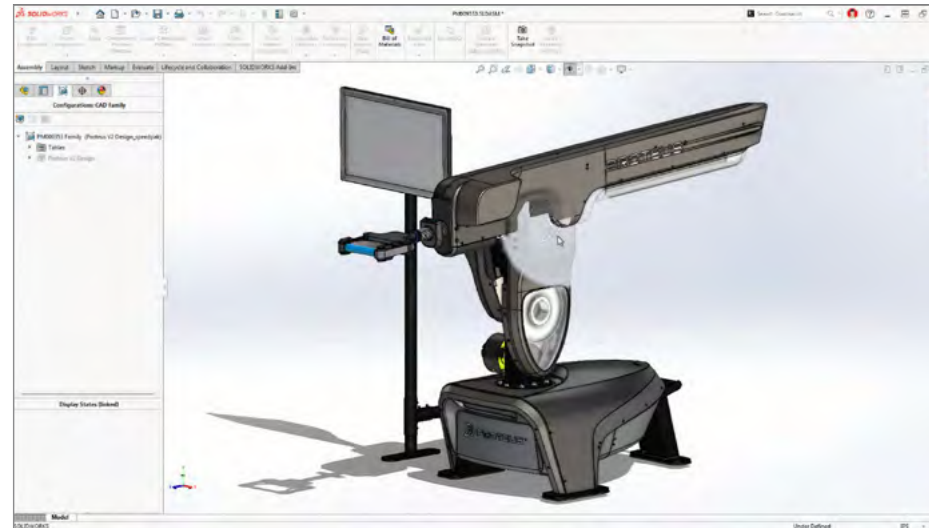
## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# PERFORMANCE



## Faster Assembly Mass Property Calculations

Speed up the calculation of mass properties for assemblies with previously calculated values for parts and bodies.



## SpeedPak Selection Circle Transparency

Improve your understanding of what geometry you are selecting in the SpeedPak selection circle with the ability to change the transparency of non-selectable objects so they can be ghosted in the background.

*These enhancements apply to **3DEXPERIENCE SOLIDWORKS** and **SOLIDWORKS** with Cloud Services.*

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

## COLLABORATION AND DATA MANAGEMENT

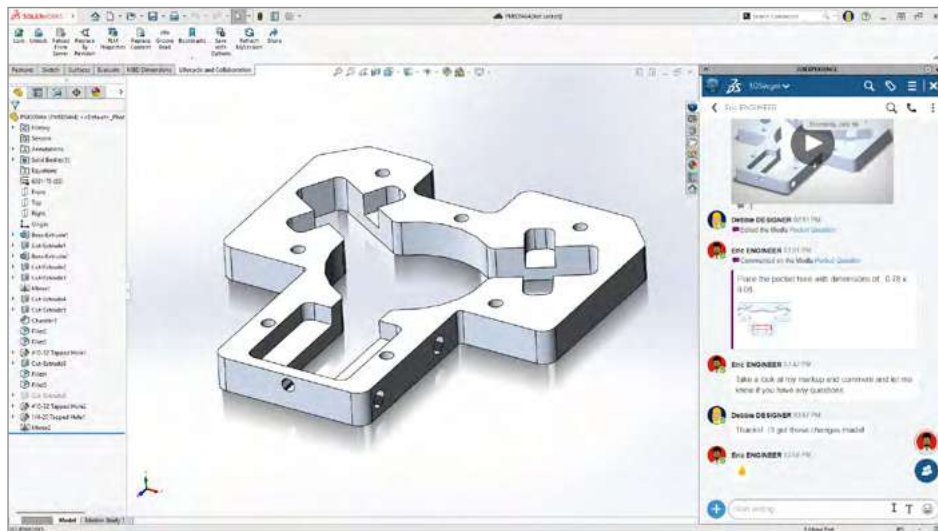
## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

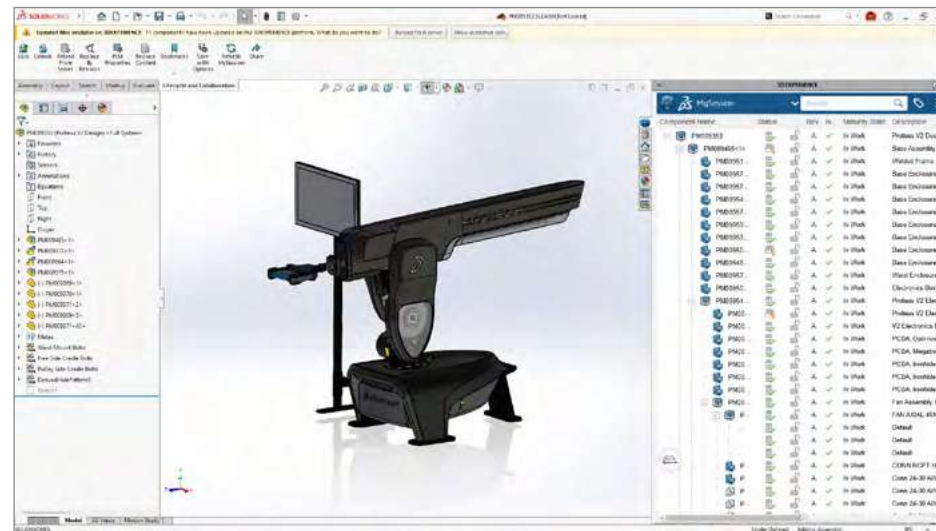
# COLLABORATION AND DATA MANAGEMENT

Deliver innovative products faster with improved collaboration and data management capabilities, such as connecting and collaborating easily with industry peers directly from inside SOLIDWORKS. Ensure data integrity with real-time notifications about any changes team members make to the design and the ability to manage deleted configurations.



## Access 3DSwym From MySession Task Pane

Connect and collaborate easily with industry peers by accessing 3DSwym communities directly from inside SOLIDWORKS in the MySession panel.



## Notify Users If the Local Cache Is Out of Date

Stay up-to-date with real-time notifications, ensuring you always work with the latest file versions during the collaborative design process.

When you open files from the local cache that were previously saved to the **3DEXPERIENCE** platform, you will see message bars at the top of your screen stating that there are new updates or revisions.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

## COLLABORATION AND DATA MANAGEMENT

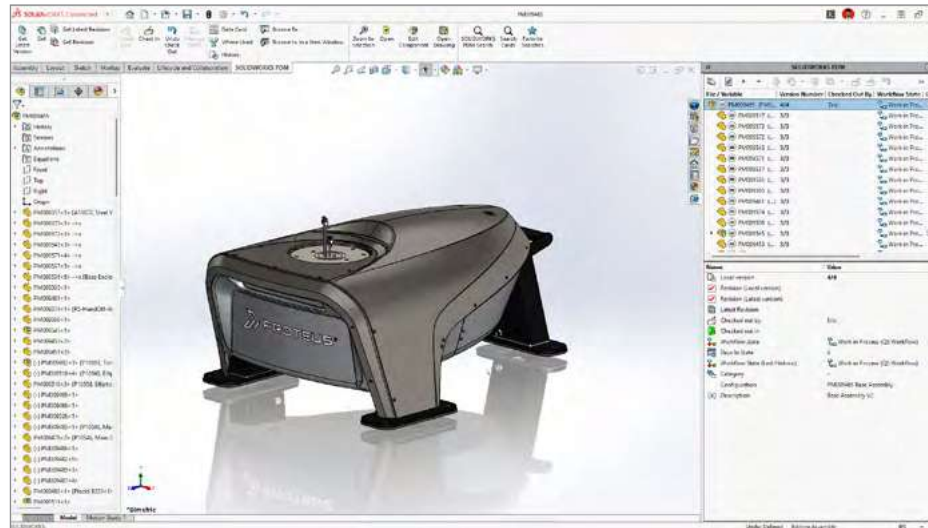
## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS



# COLLABORATION AND DATA MANAGEMENT



## Leverage Existing SOLIDWORKS PDM With 3DEXPERIENCE SOLIDWORKS

Seamlessly select your preferred data management options, including SOLIDWORKS PDM.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

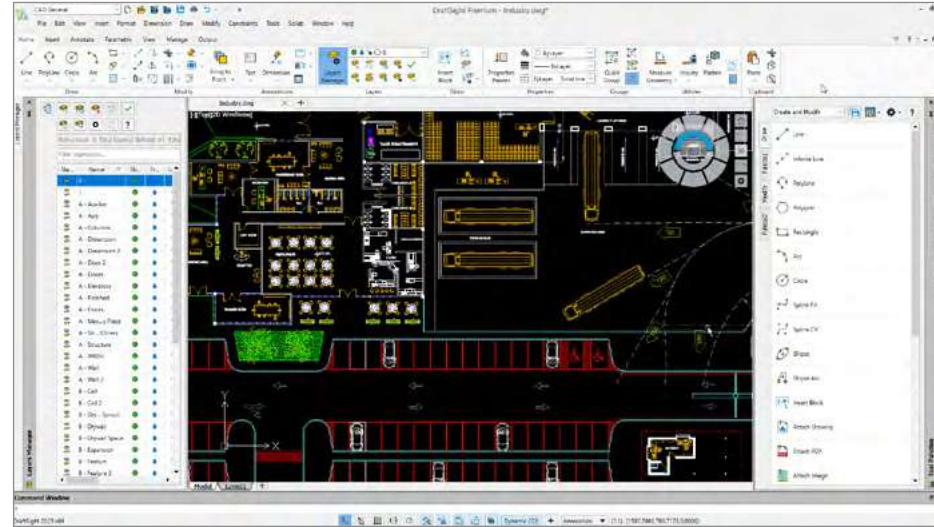
WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

Product development is built on teamwork and requires multiple solutions. Empower the whole team across product development disciplines with enhancements that help you streamline your drafting workflows with improved accuracy and clarity with the DraftSight® updates, increase data efficiency with the SOLIDWORKS PDM updates, ensure top performance and accuracy with the SOLIDWORKS Simulation updates, streamline electrical design with SOLIDWORKS Electric Schematic and Electrical Schematic Designer, and continue to design anywhere leveraging the updates to the browser-based tools on the **3DEXPERIENCE** platform.



### Simplify Drafting Workflows With Improved Communication: What's New in DraftSight

Expedite 3D design workflows by importing STEP files. Improve design communication with the enhanced bill of materials tables. Boost collaboration with civil and facility engineers with the ability to import AND export DGN data. Highlights include:

- Maintain compatibility across CAD platforms and preserve complex design data integrity during transfers with DGN Export.
- Create even more versatility for custom blocks with the new ability to insert multiple visibility elements.
- Manage your data more efficiently with table enhancements, including broken table support, autofill, and cell edit improvements.

*These enhancements apply to DraftSight solutions on the desktop and **3DEXPERIENCE** platform unless stated otherwise.*

#### INTRODUCTION

#### WHAT'S NEW IN DESIGN AND MODELING

#### PARTS

#### ASSEMBLIES

#### DRAWINGS

#### 3D DIMENSIONING AND TOLERANCING

#### ELECTRICAL AND PIPE ROUTING

#### ECAD – MCAD COLLABORATION

#### RENDERING

#### IMPORT/EXPORT

#### UX

#### PERFORMANCE

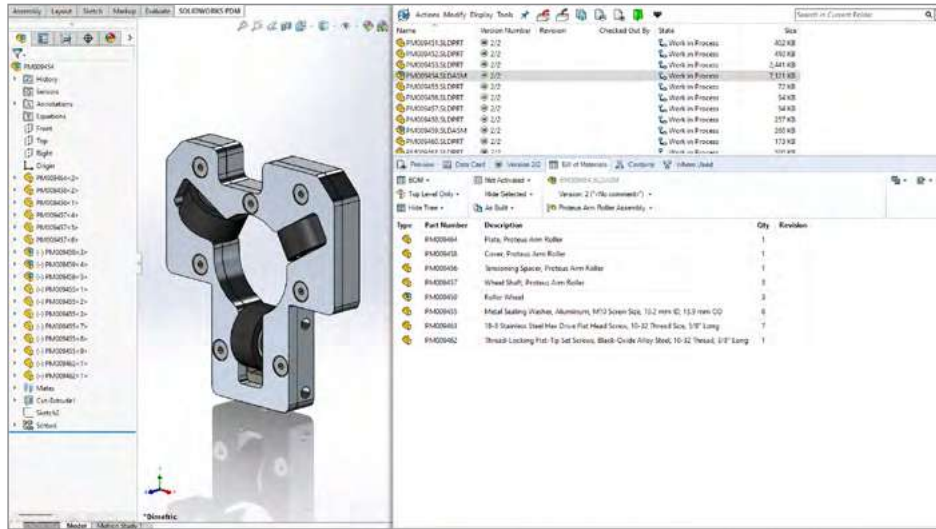
#### COLLABORATION AND DATA MANAGEMENT

#### WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

#### DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

#### EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

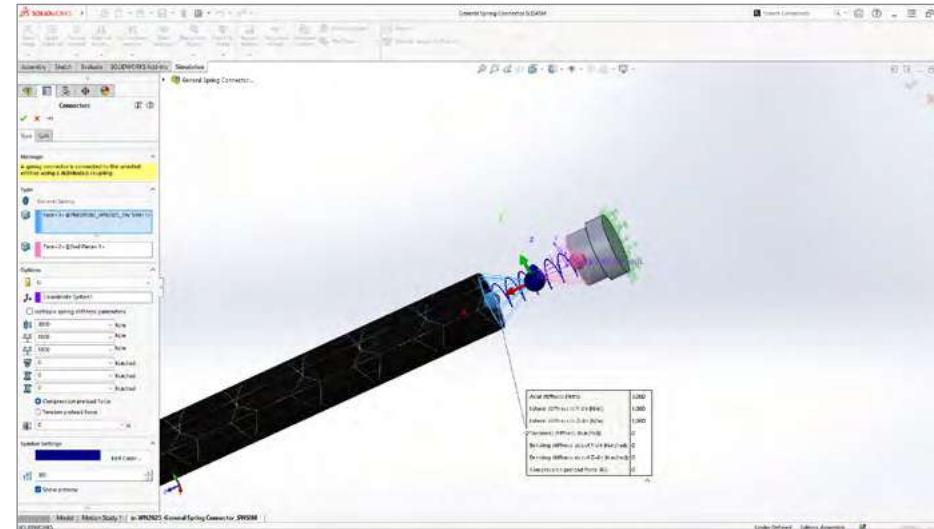
# WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION



## Increase Data Efficiency: What's New in SOLIDWORKS PDM

Enhancements to SOLIDWORKS PDM streamline accessibility, help you better understand assembly structures, and improve revision management. Highlights include:

- Quickly access SOLIDWORKS PDM functions from the new PDM tab in the CommandManager toolbar.
- Easily understand the order of assembly structures with a bill of materials that follows the same order as the SOLIDWORKS FeatureManager.
- Explore new options for caching revisions and getting the latest revision or a specified revision.
- Gain a more complete view of user activities with improved security and audit trail information.



## Ensure Product Performance and Accuracy: What's New in SOLIDWORKS Simulation

Simplify assembly analysis without compromising accuracy with the enhanced orthotropic spring connectors and enhanced pin connectors. Highlights include:

- Easily create custom spring connectors between surfaces by defining axial only, isotropic, or orthotropic springs.
- Improve the solution performance for all studies when using the distributed load option for pin connectors.
- Easily set up large models and select boundary conditions with the new UI option to remove parts or bodies excluded from the simulation study.
- Achieve enhanced meshing performance in studies with numerous identical parts featuring curved surfaces, using a high-quality mesh.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

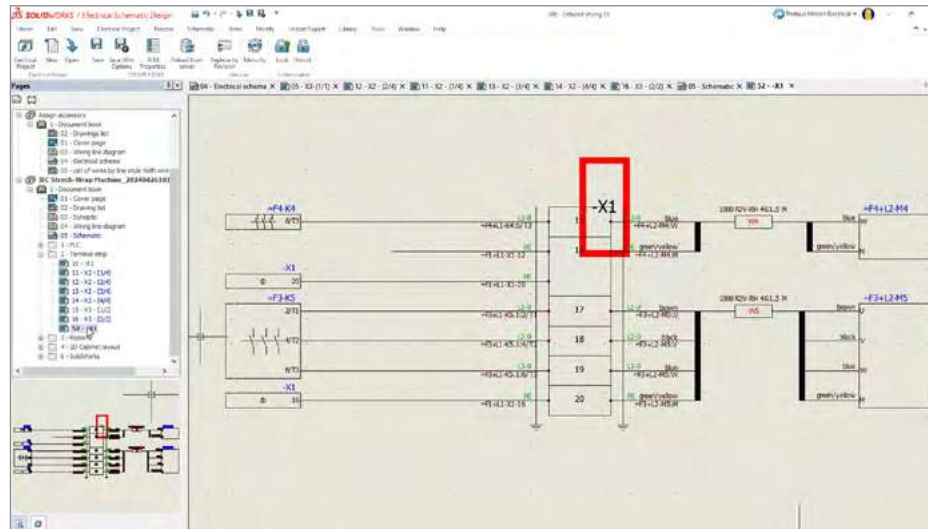
## COLLABORATION AND DATA MANAGEMENT

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION



## Simplified Electrical Design: What's New in SOLIDWORKS Electrical Schematic and Electrical Schematic Designer

Enhancements to SOLIDWORKS electrical solutions speed up electrical design with improved capabilities to generate 3D electrical harness routing, import electrical content, and create designs using enhanced drawing functionality. Highlights include:

- Create the product structure from your electrical project and combine it with the mechanical product structure from SOLIDWORKS on the **3DEXPERIENCE** platform.
- Leverage new ways to import electrical content and create designs using enhanced electrical terminal drawing functionality.
- Generate 3D electrical harness routes that include splices faster and document the harnesses more completely.

## INTRODUCTION

## WHAT'S NEW IN DESIGN AND MODELING

## PARTS

## ASSEMBLIES

## DRAWINGS

## 3D DIMENSIONING AND TOLERANCING

## ELECTRICAL AND PIPE ROUTING

## ECAD – MCAD COLLABORATION

## RENDERING

## IMPORT/EXPORT

## UX

## PERFORMANCE

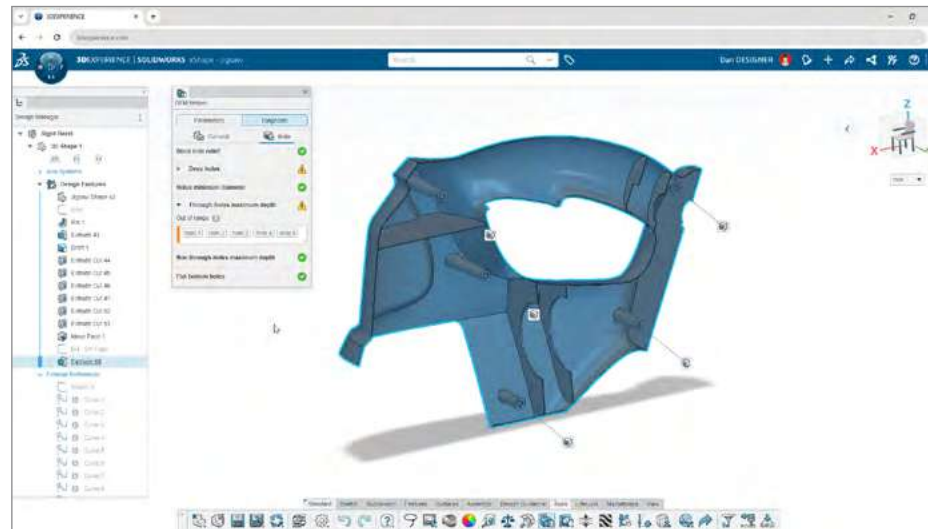
## COLLABORATION AND DATA MANAGEMENT

## WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

## DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

# DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME



## What's New in the SOLIDWORKS Browser-Based Roles

Reimagine design, collaboration, and documentation with the enhanced suite of cloud-based tools on the **3DEXPERIENCE** platform, optimized for any device. Accelerate your product development process with revamped user experiences and powerful new enhancements covering part and assembly design, freeform modeling, drawings and model-based definition, motion simulation, and 2D drafting experiences. Here's a glimpse of what's new in 3D Creator, 3D Sculptor, and Manufacturing Definition Creator to handle complex geometry from design to manufacturing. Enhancements include the following:

- Design for manufacturing by creating checks to review geometry for specific design errors that can hinder manufacturability.
- Quickly design a freeform shape around existing geometry with new functionality to align the subdivision to external geometry.
- Define manufacturing requirements with familiar 2D drawing workflows for creating sheets, views, dimensions, tolerances, and more.
- Enable quick experiments by exposing mechanism parameters and using formulas without editing motion elements.
- Visualize products in the context of a real-world environment by inserting design environments into your workspace.

INTRODUCTION

WHAT'S NEW IN DESIGN AND MODELING

PARTS

ASSEMBLIES

DRAWINGS

3D DIMENSIONING AND TOLERANCING

ELECTRICAL AND PIPE ROUTING

ECAD – MCAD COLLABORATION

RENDERING

IMPORT/EXPORT

UX

PERFORMANCE

COLLABORATION AND DATA MANAGEMENT

WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

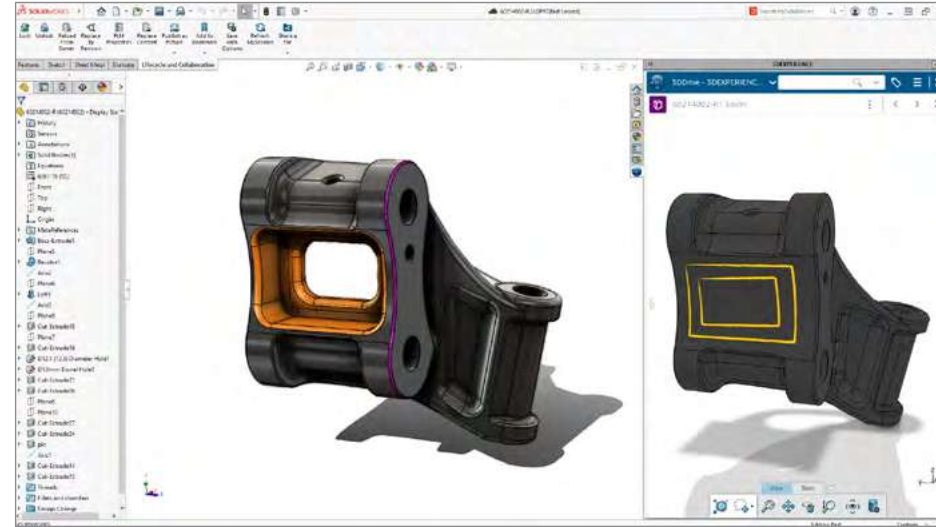
DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME

EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

## EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

Expand your toolset with even more options from the **3DEXPERIENCE** Works portfolio to improve every aspect of your business, from design to validation through to manufacturing. Whether it is BOM management, advanced multiphysics simulation, or fabrication and machining, **3DEXPERIENCE** Works value offers have you covered. Select and pay only for the tools your business needs, and only when you need them.

[Click here](#) to learn more about the Cloud PLM, Multiphysics Simulation, and Virtual Factory offers.



### Get the Most Value out of Your Data With SOLIDWORKS 2025 With Cloud Services

Have you activated your Cloud Services? New purchases of SOLIDWORKS Desktop CAD licenses come with Cloud Services, which allows you to easily connect your design data to the cloud-based **3DEXPERIENCE** platform, giving you collaboration and data management capabilities.

With Cloud Services you can share and mark up 3D designs with anyone, securely store and access designs, and formally manage design changes. Cloud Services removes the friction associated with traditional design-sharing and collaboration tools, streamlining everyday tasks to help you do what you love – design.

Best of all, Cloud Services is flexible so you can leverage the cloud-based capabilities when your company is ready. Activate your Cloud Services today so you can start taking advantage of all the enhancements in SOLIDWORKS 2025.

[Click here](#) to learn more about Cloud Services benefits and use cases.

SOLIDWORKS believes that the best way to get maximum value out of your SOLIDWORKS data is to put your data on the **3DEXPERIENCE** platform so you can boost product development with the solutions that are right for you in the **3DEXPERIENCE** Works portfolio, such as Cloud Services and **3DEXPERIENCE** SOLIDWORKS. These tools enable you to connect your data to the platform to leverage cloud-based collaboration and data management.

Don't forget – CAD enhancements come year-round as part of every functional delivery release, so you don't have to wait to take advantage of the latest technology. The best part about SOLIDWORKS 2025 is a lot of these enhancements are available now, since they've been offered in functional deliveries multiple times throughout the year.

#### INTRODUCTION

#### WHAT'S NEW IN DESIGN AND MODELING

#### PARTS

#### ASSEMBLIES

#### DRAWINGS

#### 3D DIMENSIONING AND TOLERANCING

#### ELECTRICAL AND PIPE ROUTING

#### ECAD – MCAD COLLABORATION

#### RENDERING

#### IMPORT/EXPORT

#### UX

#### PERFORMANCE

#### COLLABORATION AND DATA MANAGEMENT

#### WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION

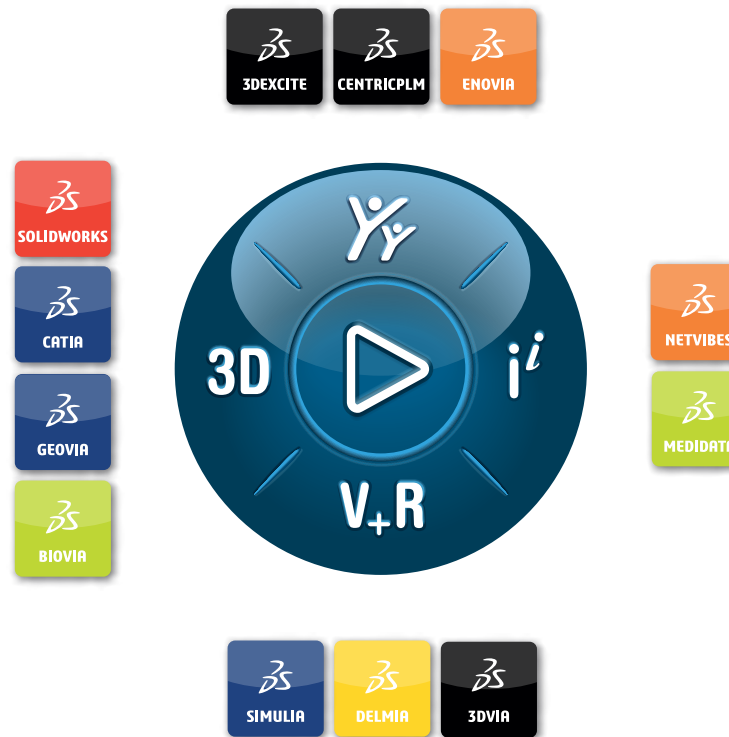
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#### EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS

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Dassault Systèmes is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating virtual twin experiences of the real world with our 3DEXPERIENCE platform and applications, our customers can redefine the creation, production and life-cycle-management processes of their offer and thus have a meaningful impact to make the world more sustainable. The beauty of the Experience Economy is that it is a human-centered economy for the benefit of all – consumers, patients and citizens.

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**Europe/Middle East/Africa**  
 Dassault Systèmes  
 10, rue Marcel Dassault  
 CS 40501  
 78946 Vélizy-Villacoublay Cedex  
 France

**Asia-Pacific**  
 Dassault Systèmes  
 17F, Foxconn Building,  
 No. 1366, Lujiazui Ring Road  
 Pilot Free Trade Zone, Shanghai 200120  
 China

**Americas**  
 Dassault Systèmes  
 175 Wyman Street  
 Waltham, Massachusetts  
 02451-1223  
 USA

**INTRODUCTION**

**WHAT'S NEW IN DESIGN AND MODELING**

**PARTS**

**ASSEMBLIES**

**DRAWINGS**

**3D DIMENSIONING AND TOLERANCING**

**ELECTRICAL AND PIPE ROUTING**

**ECAD – MCAD COLLABORATION**

**RENDERING**

**IMPORT/EXPORT**

**UX**

**PERFORMANCE**

**COLLABORATION AND DATA MANAGEMENT**

**WHAT'S NEW IN DRAFTSIGHT, PDM, AND SIMULATION**

**DESIGN FROM ANY DEVICE, ANYWHERE, ANYTIME**

**EXPAND YOUR TOOLSET WITH NEW VALUE OFFERS**