



SOLIDWORKS 2023 ENHANCEMENTS

Transform Your Ideas into an Experience

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INTRODUCTION

For over 25 years, SOLIDWORKS® has been the trusted industry standard in design and engineering. Intuitive 3D design and product development solutions from SOLIDWORKS help you conceptualize, create, validate, communicate, manage, and transform your innovative ideas into not only great products, but great experiences.

SOLIDWORKS 3D CAD is at the core of a robust portfolio that includes tools for design, simulation, manufacturing, data management, and collaboration. All SOLIDWORKS products work together seamlessly, using the same design data, so each design change is updated automatically across all applications. Plus, it's interoperable with many types of CAD data on the market so you can open and work with the model in its original format or convert it automatically to a SOLIDWORKS file.

SOLIDWORKS has evolved over the years as one of the most popular CAD solutions on the market known for its user-friendly interface. It's grown to be a fast, flexible solution based on user needs. SOLIDWORKS 2023 builds on the core values of SOLIDWORKS with the goal of helping designers work smarter, faster and together.

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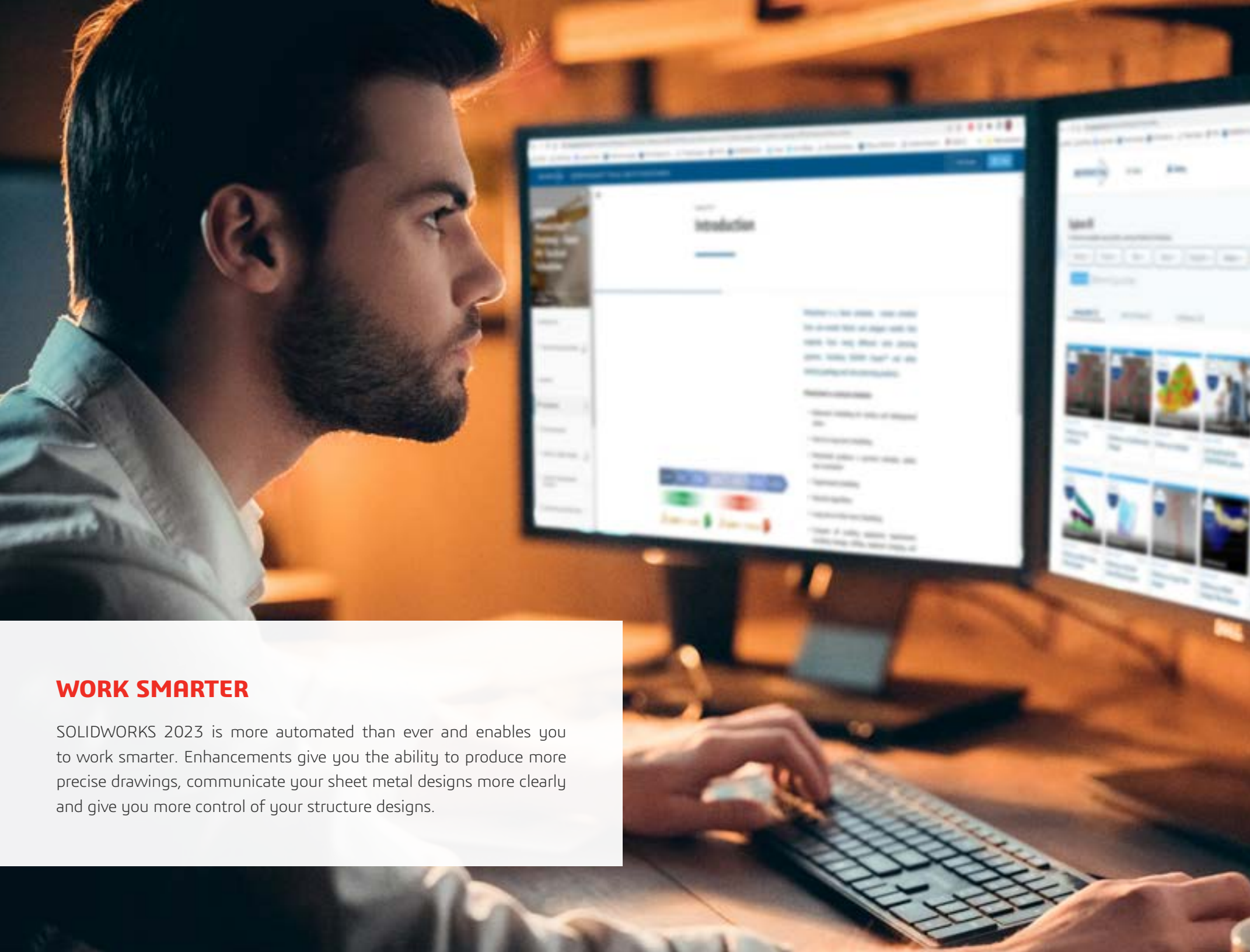
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WORK SMARTER

SOLIDWORKS 2023 is more automated than ever and enables you to work smarter. Enhancements give you the ability to produce more precise drawings, communicate your sheet metal designs more clearly and give you more control of your structure designs.

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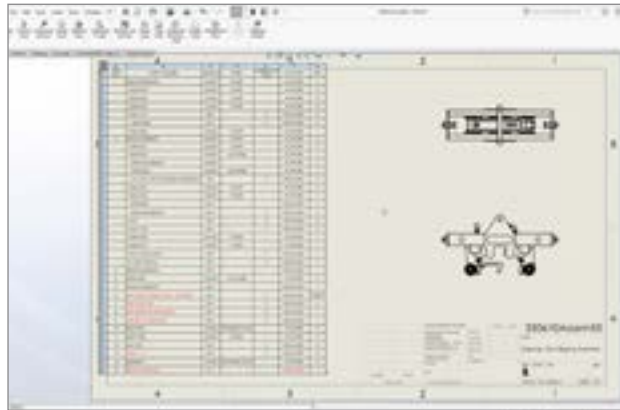
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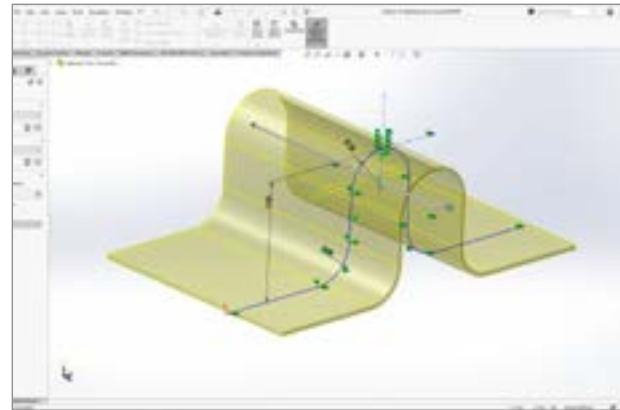
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Drawings and Detailing

Create drawings that represent designs more accurately and ensure standardization by limiting geometric tolerances to a specific standard. New features include these abilities:

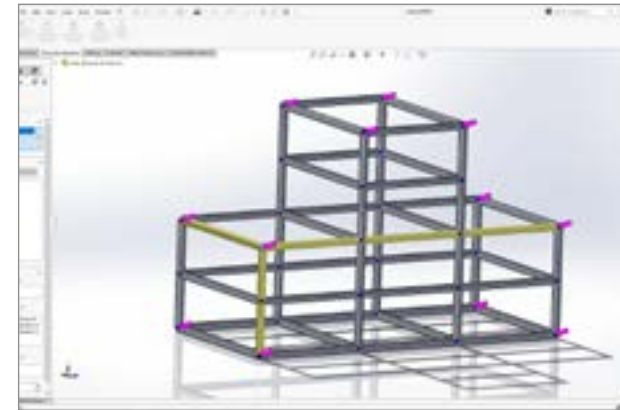
- Enable/Disable options to ensure standardization by limiting geometric tolerances to a specific standard.
- Identify overridden values in a BOM table more easily with values turning blue when overridden.
- Display transparent models in drawings with Hidden Lines Removed (HLR) and Hidden Lines Visible (HLV) modes.



Sheet Metal

Sheet metal design is smarter and more flexible than ever with the ability to provide valuable insight up front, improving communication with manufacturing and speeding up the process. Enhancements include:

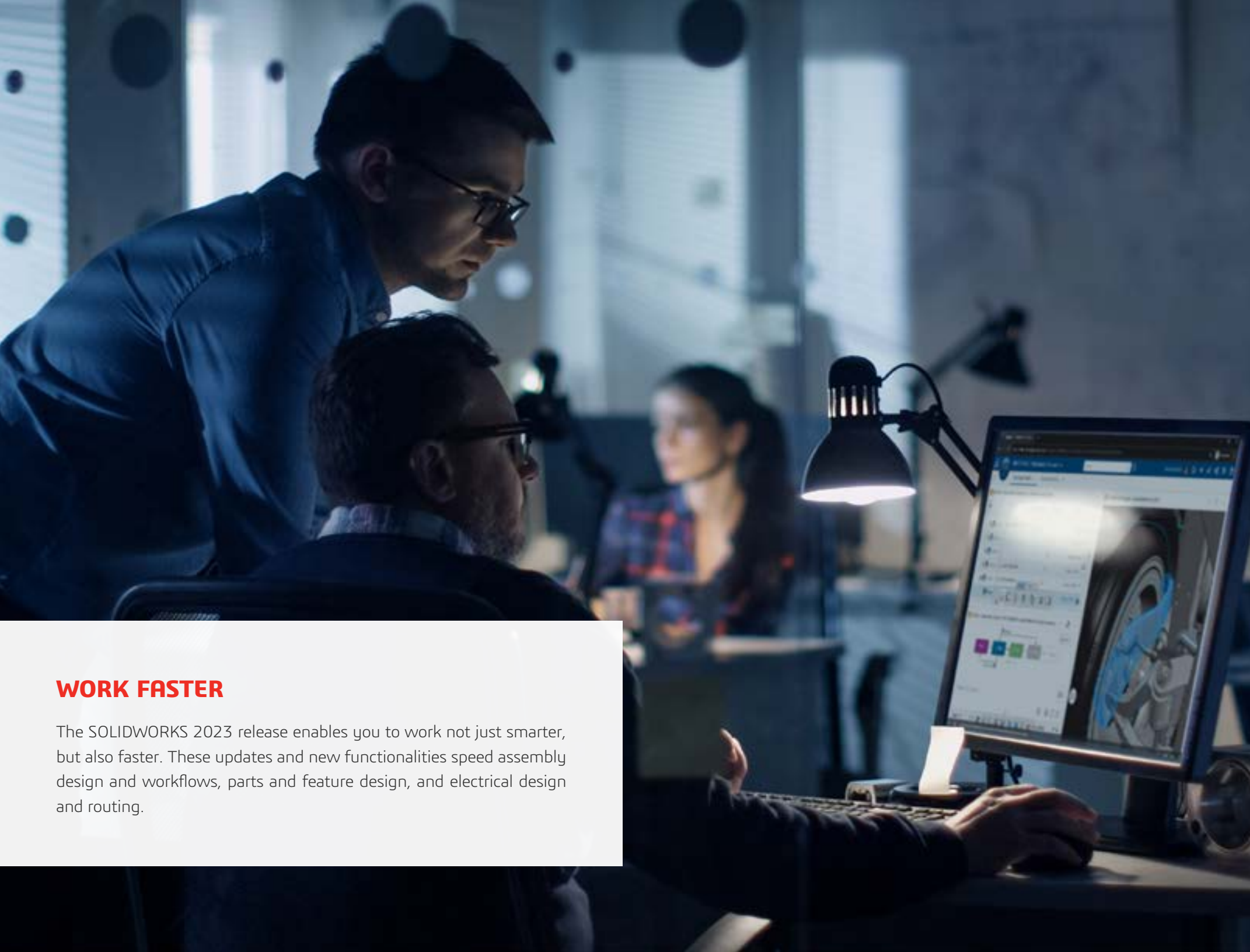
- Option to apply symmetric thickness with the Base Flange or Lofted Bend features to equalize bend radius values more easily.
- Ability to include the sheet metal gauge value in annotations and cut lists.
- Automatic sensor alerts when you exceed the sheet metal bounding box size limits.



Structure Design

Build and modify more complex structures easily with more control and structure design capabilities, including the new Pattern feature. New capabilities include:

- Group similar corners and apply trimming, then automatically apply connection plates with the new Pattern feature.
- Select a set of weldment members of the same size and type and change their size for specific configurations.
- Zoom to a selected corner from the FeatureManager® design tree or the Corner Management PropertyManager.



WORK FASTER

The SOLIDWORKS 2023 release enables you to work not just smarter, but also faster. These updates and new functionalities speed assembly design and workflows, parts and feature design, and electrical design and routing.

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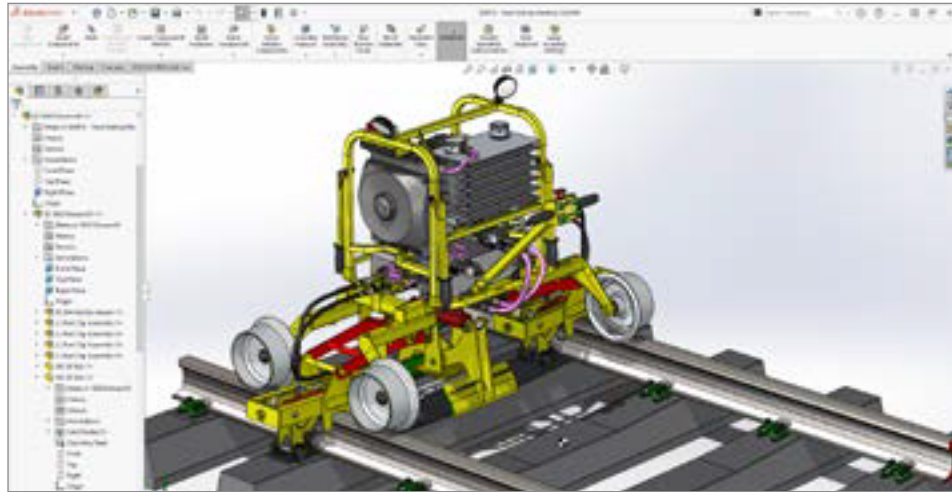
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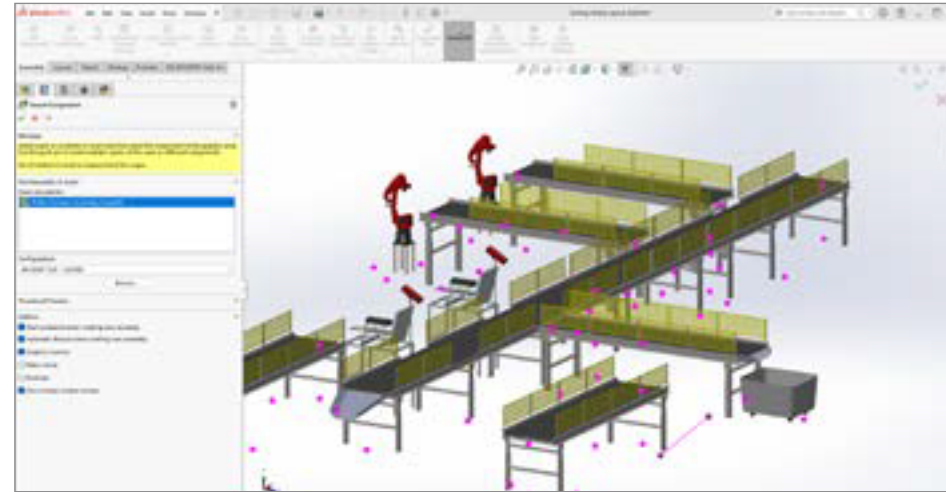
Updates include the following:



Assembly Design

Assembly design enhancements enable you with further efficiency gains. Work faster with large assemblies with more automated assembly management. Time-saving updates put you in a position to increase speed across the board:

- Optimize resolved mode automatically by selectively using lightweight technology when you load components in resolved mode.
- Be more productive with the ability to save large assemblies faster.
- Speed up your downstream processes by exporting assembly components as separate STEP files.

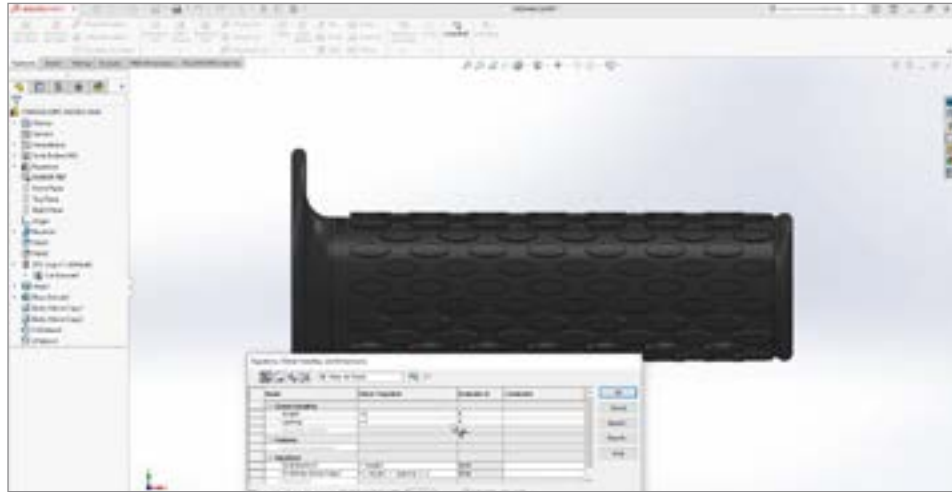


Assembly Workflows

The assembly workflows are faster than ever and require fewer steps in SOLIDWORKS 2023. Enhancement benefits:

- Ensure design integrity by automatically replacing lost mate references with alternative mate references, including faces, edges, planes, axes, and points.
- Save more time when designing assemblies with the ability to suppress unneeded Magnetic Mates and Connection Points.
- Speed up assembly feature creation with new end conditions, including Up To Next, Up To Vertex, and more.

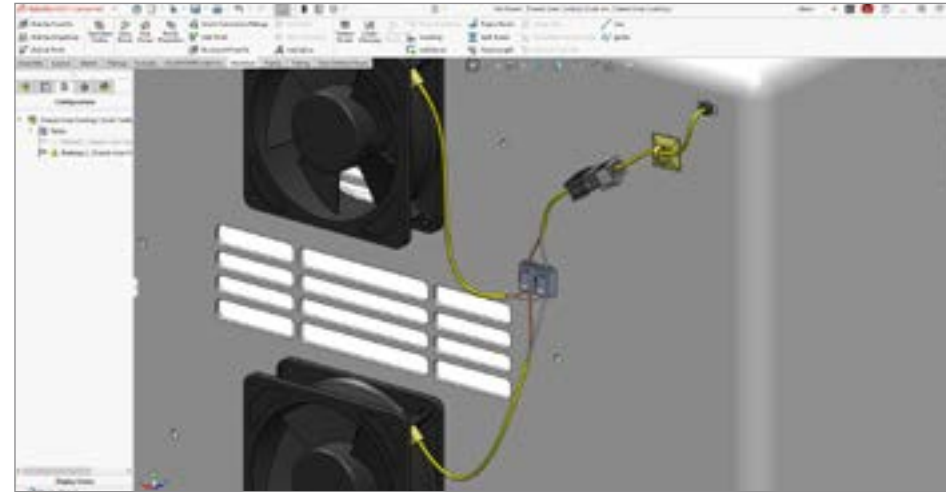
Updates include the following:



Parts and Features

Create part geometry quicker with multi-body modeling improvements and extensive use of coordinate systems. Enhancements include these:

- Turbocharge the copying of bodies by controlling translation and rotation values with equations.
- Reference coordinate systems in 3D sketches, 2D sketch dimensions, and mirroring to speed up part modeling.
- Create wrap features from sketches that use single-line fonts, also known as stick fonts.



Electrical Design and Routing

In SOLIDWORKS 2023 you can create more informative electrical documentation faster while reducing errors and handle more complex electrical routing scenarios with new options for flattening, reorienting, and displaying wires and connectors. Enhancements include these:

- Include report tables, such as BOM and wire lists, in any electrical project drawing.
- Display connection information about a component in a label that you can dynamically insert into schematics.
- Create better schematics automatically from electrical data in MS® Excel spreadsheets.
- Create splices with multiple circuits to which wires or cable cores are connected.
- Visualize your harnesses segment clearly by viewing its graphical cross section.
- Improve electrical routing design by reorienting the connectors to be parallel to a selected plane.



WORK TOGETHER

The ability to collaborate effectively is one of the most important aspects of product development. With access to the **3DEXPERIENCE** Works portfolio and the cloud-based **3DEXPERIENCE** platform, design teams not only can work together more efficiently but can also expand their toolset with solutions that complement **SOLIDWORKS**. With **SOLIDWORKS**, you can easily work with all products within the **SOLIDWORKS** portfolio and other Dassault Systèmes solutions and collaborate with peers and partners on the platform.

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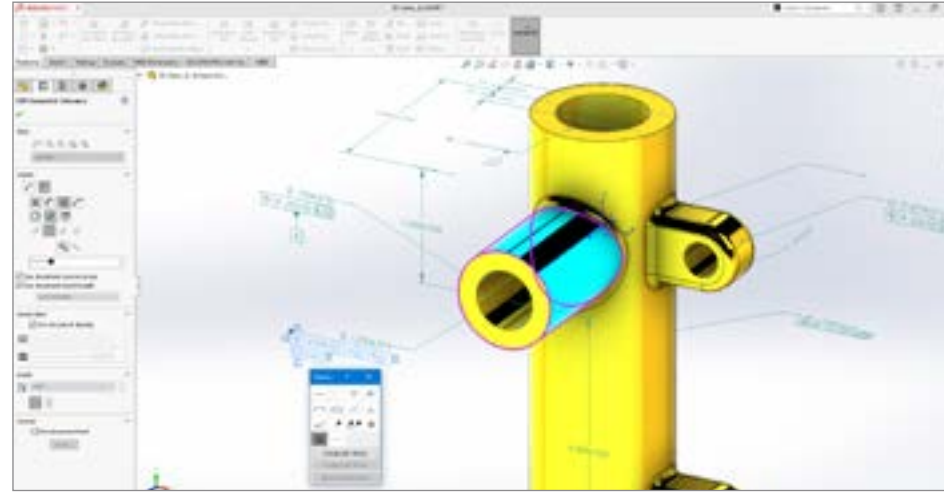
Choose from an abundance of solutions and roles to fit your needs. Below we'll look at some options for you to consider for enhancing your team's workflow, increasing time to market, and surpassing the competition.



SOLIDWORKS Visualize

Easily create photo-quality images, interactive animations, and more from your SOLIDWORKS models to create an experience that wins over potential customers and show existing customers various iterations and ideas and progress. The latest release amps up rendering performance and includes these abilities:

- Define colors in more ways with the Color Picker and the color swatch palettes.
- See display improvements of Physically Based Rendering (PBR) materials and more in Preview render mode.



Model-based Definition (MBD)

Enhance your SOLIDWORKS workflow with SOLIDWORKS MBD. Communicate designs more clearly in 3D with the ability to view all dimensions in the assembly. The latest release also gives you these abilities:

- View component dimensions in 3D PDF files, including feature dimensions, reference dimensions, and DimXpert™ annotations.
- Detail wedge-shaped features faster with expanded feature recognition.

Want to improve your workflow even more? Add the powerful and browser-based Manufacturing Definition Creator role to your toolset so you can easily create definitions and produce 2D drawings from your 3D models to communicate product manufacturing information (PMI) more clearly.

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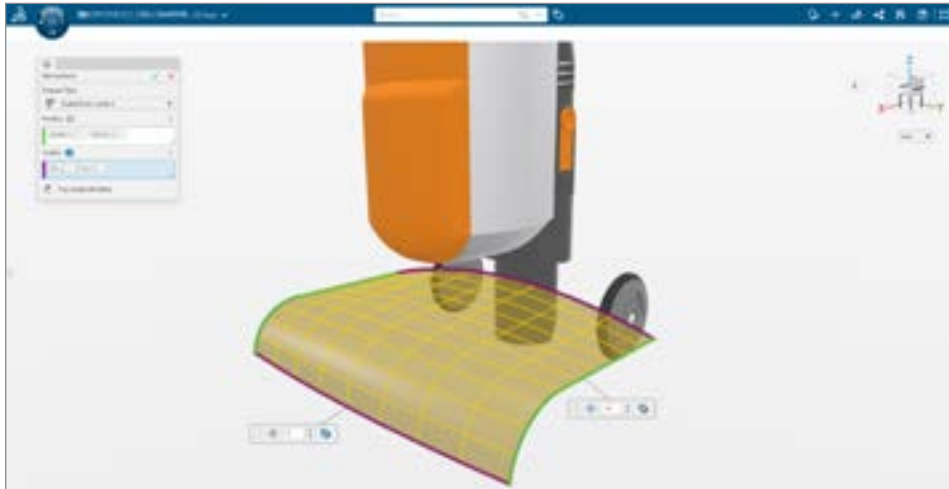
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SOLIDWORKS Browser-Based Roles

The browser-based roles include roles for parametric design, freeform modeling, structure design, sheet metal, molds and more. 3D Sculptor and 3D Creator, for example, work seamlessly with SOLIDWORKS and are great options for designers and their colleagues. They run on the 3DEXPERIENCE platform and can be accessed via a web-browser anytime creativity strikes, and on any device. Many of the roles also use machine learning and artificial intelligence (AI) that provide design guidance and speed up repetitive tasks.



3D SCULPTOR

3D Sculptor offers subdivision (Sub-D) modeling to create complex shapes quickly using a push-pull interaction. New features include:

- Selection accelerators that speed up geometry selection.
- Net surfacing for creating a subdivision surface using familiar CAD operations, then refine the surface with the intuitive subdivision tool kit, eliminating the need for primitive shapes.



3D CREATOR

3D Creator offers parametric 3D solid and surface modeling, assembly modeling and more. This is great for SOLIDWORKS users who want to design on the fly or those who need to do light CAD work, such as making a quick modification or mockup. Features include:

- New Welcome app features tutorials to help new and existing users get started quickly and bring them up to speed on the features and apps of roles they own. In addition, you can launch other roles straight from the app. You can also access support and user forums within the app.
- Powered by the Design Assistant, the Smart Mate helps you create mates by dragging and holding a component in the position where you want it to mate with the surrounding components.

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SOLIDWORKS Connected

Are you connected yet? There are several options to connect your SOLIDWORKS data to the **3DEXPERIENCE** platform to leverage its built-in data management and collaboration capabilities. If you want to continue using your existing SOLIDWORKS desktop installation, you can use Collaborative Designer for SOLIDWORKS, which connects your data to the **3DEXPERIENCE** platform. Or if you are looking for a new SOLIDWORKS installation that is cloud-connected, you can use **3DEXPERIENCE SOLIDWORKS**, which is natively connected to the platform. Both include all your favorite SOLIDWORKS features and install locally. **3DEXPERIENCE SOLIDWORKS** offers a new offline mode so you can work without an internet connection. Other perks of both roles:

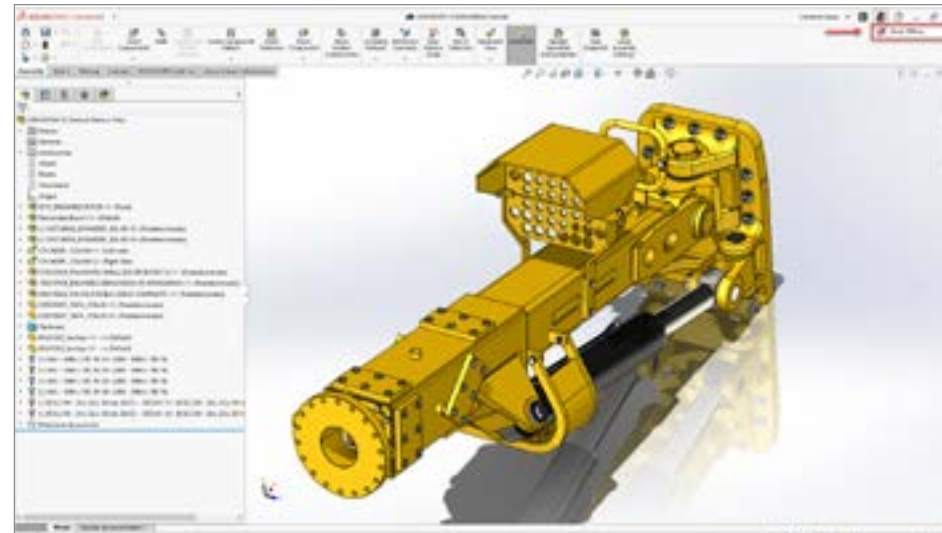
Cloud Data Management

Cloud data management that enables you to securely store and manage your SOLIDWORKS data in the cloud while preventing production errors by streamlining drawing release by ensuring drawings are only released when all components are ready. Other data management updates include these:

- New revision control formats
- Ability to manage saved data on the **3DEXPERIENCE** platform by defining a Bookmark to your content when saving.

Collaboration

Collaboration features enable you to easily exchange data with external suppliers so you can securely communicate and share relevant PLM data with external stakeholders who don't have the **3DEXPERIENCE** platform.



The browser-based roles, **3DEXPERIENCE SOLIDWORKS** and Collaborative Designer for SOLIDWORKS are all available as roles in the **3DEXPERIENCE** Works portfolio.

The **3DEXPERIENCE** platform brings everything and everyone together under one secure roof. Benefits include:

- Real-time collaboration
- Out-of-the-box, cloud-based data management
- Low IT overhead with no server to set up and no software upgrades

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