

DIGITAL INDUSTRIES SOFTWARE

The ROI of Solid Edge with synchronous technology report

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solidedge.siemens.com

SIEMENS

We've spoken with hundreds of Solid Edge customers about how Solid Edge with synchronous technology has saved them time, money and frustration. In this brief, we'll explore how real users are improving their product development processes, and the impact those improvements have on their bottom line.

Solid Edge with synchronous technology: speed and flexibility

Solid Edge® software makes creating and editing 3D computer-aided design (CAD) models faster and easier through our unique synchronous technology – which combines the speed and simplicity of direct modeling with the flexibility and control of parametric design. Solid Edge synchronous technology enables you to rapidly create new concept designs, easily respond to change requests and make simultaneous updates to multiple parts within an assembly. With this design flexibility, you can eliminate cumbersome preplanning and avoid feature failures, rebuild issues and time-consuming rework. The power of synchronous technology also allows you to treat multi-CAD data just like native files, supporting seamless collaboration with suppliers and partners.

In this brief, we'll look at just a few of the areas where Solid Edge customers say they save time and money:

- Design to support new products
- Re-engineering of existing products
- Searching for existing CAD data
- Creating bills of materials (BOMs)
- Planning and conducting design reviews
- Creating, checking and editing drawings
- Editing imported or supplier models
- Creating documentation

Process area	Potential time savings
> Design to support new products	30 to 50 percent
> Re-engineering of existing products	40 to 50 percent
> Re-using design detail	10 to 85 percent
> Creating bills of materials (BOMs)	2 to 5 percent
> Collaborating with other groups	5 to 20 percent
> Creating, checking and editing drawings	5 to 20 percent
> Editing imported or supplier models	30 to 90 percent
> Creating documentation	2 to 3 percent



Design to support new products

Solid Edge with synchronous technology enables you to rapidly create new designs. On average, customers said they spent 40 percent of their time designing new products.

Concept design (1)

With integrated 2D and 3D sketching, Solid Edge enables you to begin concept designs immediately, without tedious preplanning. Solid Edge's history-free approach to 3D CAD means that you can work directly with your design.

Detailed design (2)

Solid Edge with synchronous technology gives you the best of both direct and parametric modeling, offering unparalleled design flexibility while enabling you to maintain control with organized feature trees where needed.

What's your ROI?

With Solid Edge with synchronous technology, customers reported an average time savings of **30 to 50 percent** on new product designs.

Solid Edge synchronous technology means that it is easy to make changes to existing designs, and even to history-based 3D CAD models. On average, customers said they spent 20 percent of their time re-engineering existing products.

Flexible changes

By simply updating dimensions, or pushing and pulling on geometry, you can quickly and easily make changes to any model, without worrying about feature failures, rebuild issues or time-consuming rework. Features can easily be reordered without dependencies.

Design intent recognition

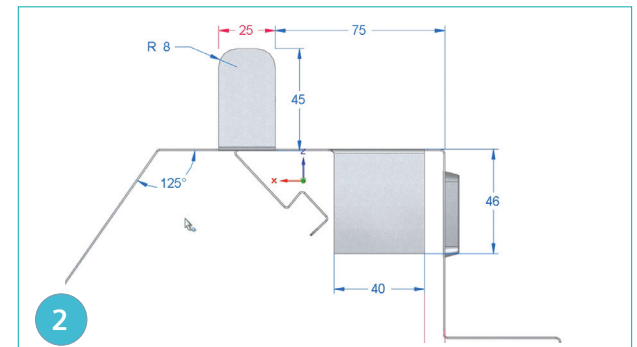
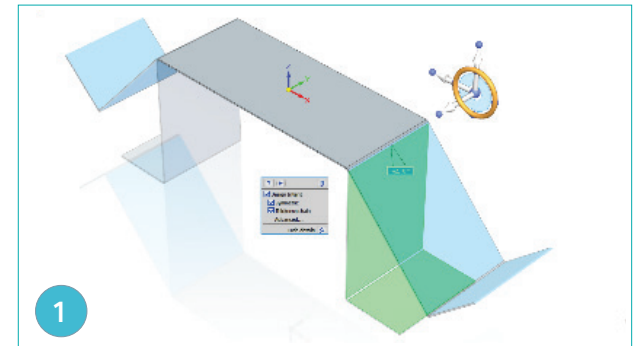
Solid Edge with synchronous technology recognizes and maintains design intent on the fly, making changes predictable and revisions faster.

Simultaneous editing of multiple Parts

Solid Edge allows you to easily edit multiple parts in an assembly, without time-consuming history-based edits or the need to create links between parts. Simply select and drag the parts within an assembly.

“Using Solid Edge with synchronous technology, I can actually do many more iterations now that I wasn't able to do before. And because of that, the cost of the product comes down. The weight of the product comes down. The performance goes up. The warranty is a lot longer. Quality loves it. We love it. The profit margin loves it.”

John Winter
Mechanical Engineering Manager
Bird Technologies



Re-engineering of existing products

What's your ROI?

Solid Edge customers reported an average time savings of **40 to 50 percent** when re-engineering existing products.

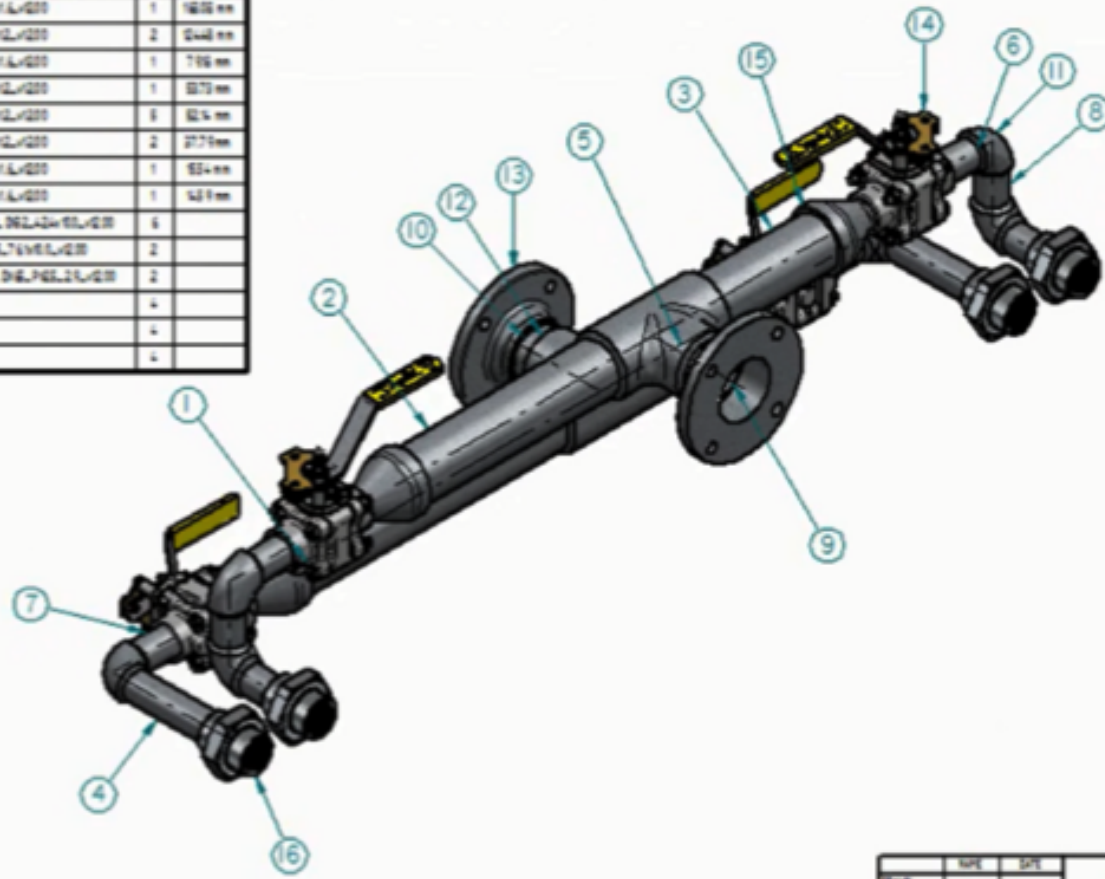


Re-using design detail

What's your ROI?

Solid Edge customers reported an average time savings of **two to five percent** when creating bills of materials.

QTY	QTY	QTY
1	1	27574 mm
1	1	2882 mm
1	1	1400 mm
2	2	2448 mm
1	1	7168 mm
1	1	1079 mm
1	1	625 mm
2	2	2779 mm
1	1	634 mm
1	1	1479 mm
6	6	
2	2	
2	2	
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4	4	



NAME	DATE	
GROUP		
PROJECT		
DESIGNER		
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Creating bills of materials

Solid Edge with synchronous technology enables you to easily re-use 3D design detail from other models. On average, customers said they spent 5 percent of their time searching for and re-using existing CAD data.

Re-use design details from existing 3D data, saving time and effort in new designs

Simply open your component, and select the detail you wish to use. Then simply copy just like you would in Microsoft® Word. Paste the feature into the new model, and placement is as easy as snapping it to where you want it. If you want to be able to re-use specific detail multiple times in the future, you can paste it into a library, then just drag and drop to re-use it. With the detail in place, Solid Edge automatically extends to connect to the solid geometry.

“We find the functionality Solid Edge provides for the simple re-use of existing designs is very helpful. It facilitates implementation periods of just a few weeks for entire projects.”

Gregor Witzmann

Product Development and Customer Services Manager
APV Technische Produkte

In most cases, parts lists are required for assembly drawings, purchasing or manufacturing planning. On average, customers said they spent five percent of their time creating bills of materials

Solid Edge automates the creation of bills of materials, parts lists, exploded views and balloons for models of any size, and makes it easy to modify existing parts lists due to design changes. Solid Edge creates reports that provide information about the components that make up an assembly.

You can create:

- Assembly reports
- Bills of materials
- Exploded bills of materials
- Parts lists
- Pipe cut lengths
- Fittings lists
- Frame profile cut lengths
- Pipe reports
- Wire harness reports
- From-to lists
- Connector tables
- Wire cut lengths

What's your ROI?

Solid Edge customers reported an average time savings of **10 to 85 percent** when re-using existing CAD data.

Why the range?

Customers who work on multiple products in a related product line generally see more benefit from design re-use improvements than customers who spend most of their time on custom, one-off projects.

The screenshot displays the Solid Edge software interface. On the left, a 3D model of a support frame is shown with numbered callouts (1-13) pointing to various components. On the right, a Bill of Materials (BOM) table is visible, listing the components and their quantities.

Item Number	Title	Material	Quantity	Cut Length
1	SUPPORT FRAME 13x13x5	Steel	4	280,000 mm
2	SUPPORT FRAME 13x13x5	Steel	4	220,000 mm
3	SUPPORT FRAME 13x13x5	Steel	4	90,000 mm
4	Channel DN 125 - 219x25	Steel	2	640,000 mm
5	Channel DN 125 - 219x25	Steel	1	580,000 mm
6	Channel DN 125 - 219x25	Steel	1	90,000 mm
7	SUPPORT FRAME 13x13x5	Steel	4	240,000 mm
8	Channel DN 125 - 219x25	Steel	4	440,000 mm
9	SUPPORT FRAME 13x13x5	Steel	4	710,000 mm
10	SUPPORT FRAME 13x13x5	Steel	4	470,000 mm
11	SUPPORT FRAME 13x13x5	Steel	8	340,000 mm
12	Channel DN 125 - 219x25	Steel	1	374,000 mm
13	Channel DN 125 - 219x25	Steel	2	434,000 mm

Collaboration and mobility

You can also create assembly reports for managed documents.

Solid Edge with synchronous technology makes it easier to collaborate with internal teams, suppliers and customers. On average, customers said they spent five percent of their time collaborating with other groups.

Free viewers

By taking advantage of our free viewers, anyone on your review team can easily view Solid Edge 3D models and 2D drawings, including rotating, panning, and zooming. You can also save images and email them as needed for collaboration across your team, and with customers and suppliers.

Cloud-enabled design

Solid Edge provides cloud capabilities, giving you easy access to your 3D CAD software across different devices, instant configuration of your CAD environment to your personal preferences and the ability to quickly share your data.

Unprecedented mobility

Solid Edge is designed for compatibility with touch-screen tablets, such as the Microsoft Surface® Pro, giving you the flexibility to complete design tasks anywhere, at any time. Instead of just taking notes in a design review, you can take action – testing simple design changes, validating using Solid Edge Simulation, and creating a 3D model or drawing of the proposed change.

With Solid Edge, creating, annotating and updating drawings is simple. On average, customers said they spent 10 percent of their time creating, checking and editing drawings.

Streamlined drawing creation

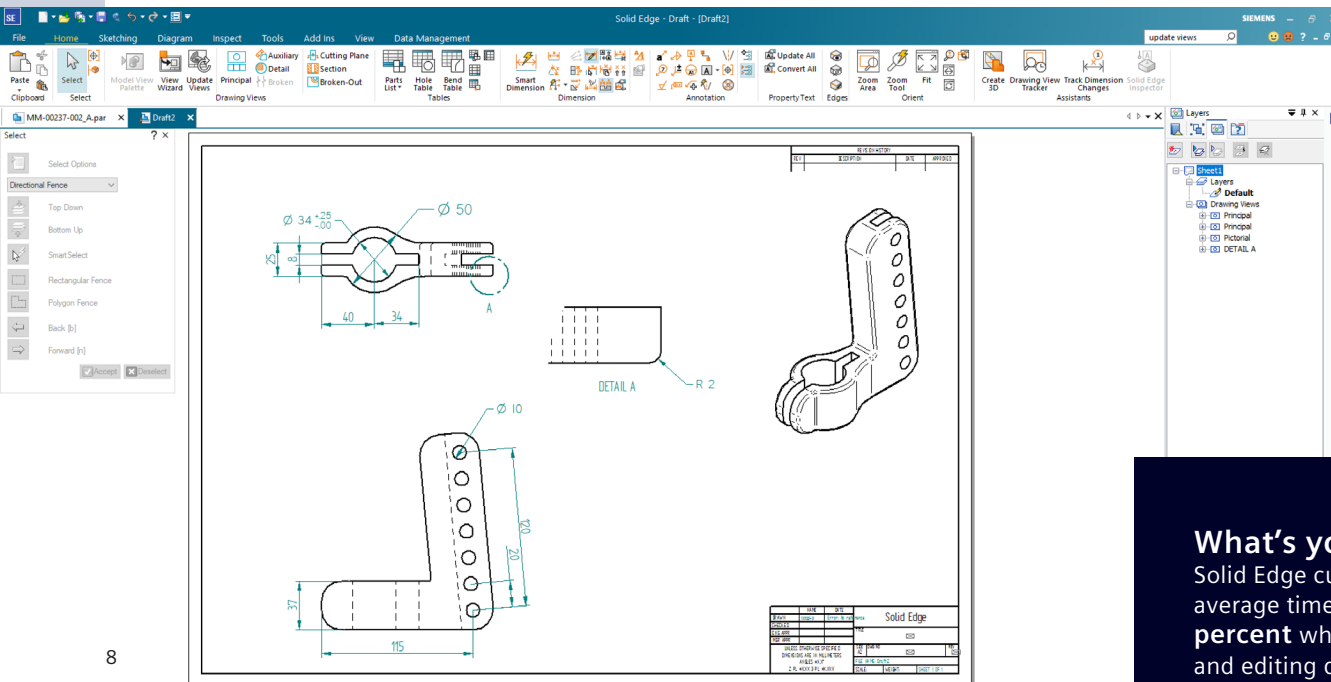
Solid Edge automatically creates and updates drawings from 3D models, quickly creating standard and auxiliary views, including section, detail, broken and isometric views. As changes are made to parts or assemblies, associated drawings update automatically.

Documenting the largest assemblies

Solid Edge dramatically accelerates the production of drawings for even the largest assemblies by automating exploded views, balloons, parts lists and bills of materials. Place drawing views based on a search query and turn off all nonessential components, allowing faster placement and updating of drawing views.

Drawing automation with Quicksheet templates

Using Quicksheet templates in Solid Edge, you can eliminate repetitive tasks by predefining a drawing layout and creating new drawings by simply dragging a different part or assembly into the template.



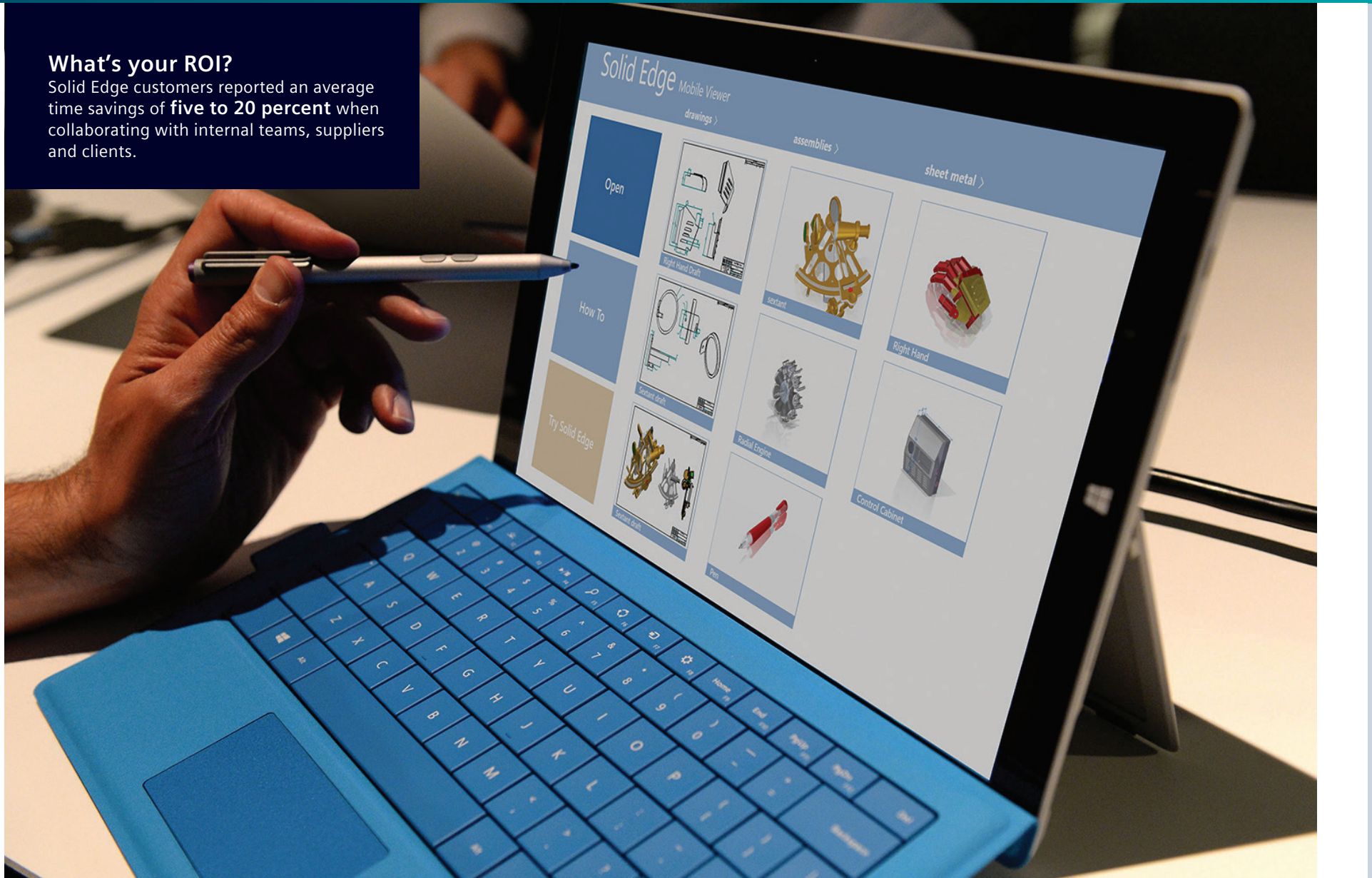
What's your ROI?

Solid Edge customers reported an average time savings of **five to 20 percent** when creating, checking, and editing drawings.

Creating, checking and editing drawings

What's your ROI?

Solid Edge customers reported an average time savings of **five to 20 percent** when collaborating with internal teams, suppliers and clients.



Editing imported or supplier models

Solid Edge eliminates the challenge of importing and editing data from other 3D CAD systems. On average, customers said they spent 10 percent of their time editing imported or supplier models or related 2D drawings.

With Solid Edge synchronous technology, importing a file from another 3D CAD system is as simple as opening it – and editing imported data is just as easy. Simply click and drag features or add and edit dimensions on the fly, and Solid Edge will automatically make intelligent updates as if a history tree existed. The unique power of synchronous technology allows you to easily collaborate with suppliers and partners, and treat multi-CAD data just like native files.

“Tasks are more automated. For example, you can click a button or two and it will generate a bill of material. Another benefit for us is that we can easily create service manuals using Solid Edge assembly models. It’s very easy to manipulate them and create exploded views.”

Greg Banaszkiwicz
Senior Design Engineer
Reelcraft

“Synchronous technology in Solid Edge is ideal for handling multi-CAD or foreign data. We can save time by making the changes, instead of asking our suppliers to make them.”

Krishna Prasad
Senior Technical Architect, Systems Design
Energywin

Solid Edge makes it easy to create product documentation, including assembly instructions, service manuals and marketing materials. On average, customers said they spent five percent of their time creating documentation.

Exploded views for service manuals (1)

Solid Edge automates the creation of exploded views, balloons and parts lists for models of any size. You can choose from a number of different display options, such as shading and edge display, to ensure that your documents communicate their intent as clearly as possible.

Rendered images for sales and marketing (2)

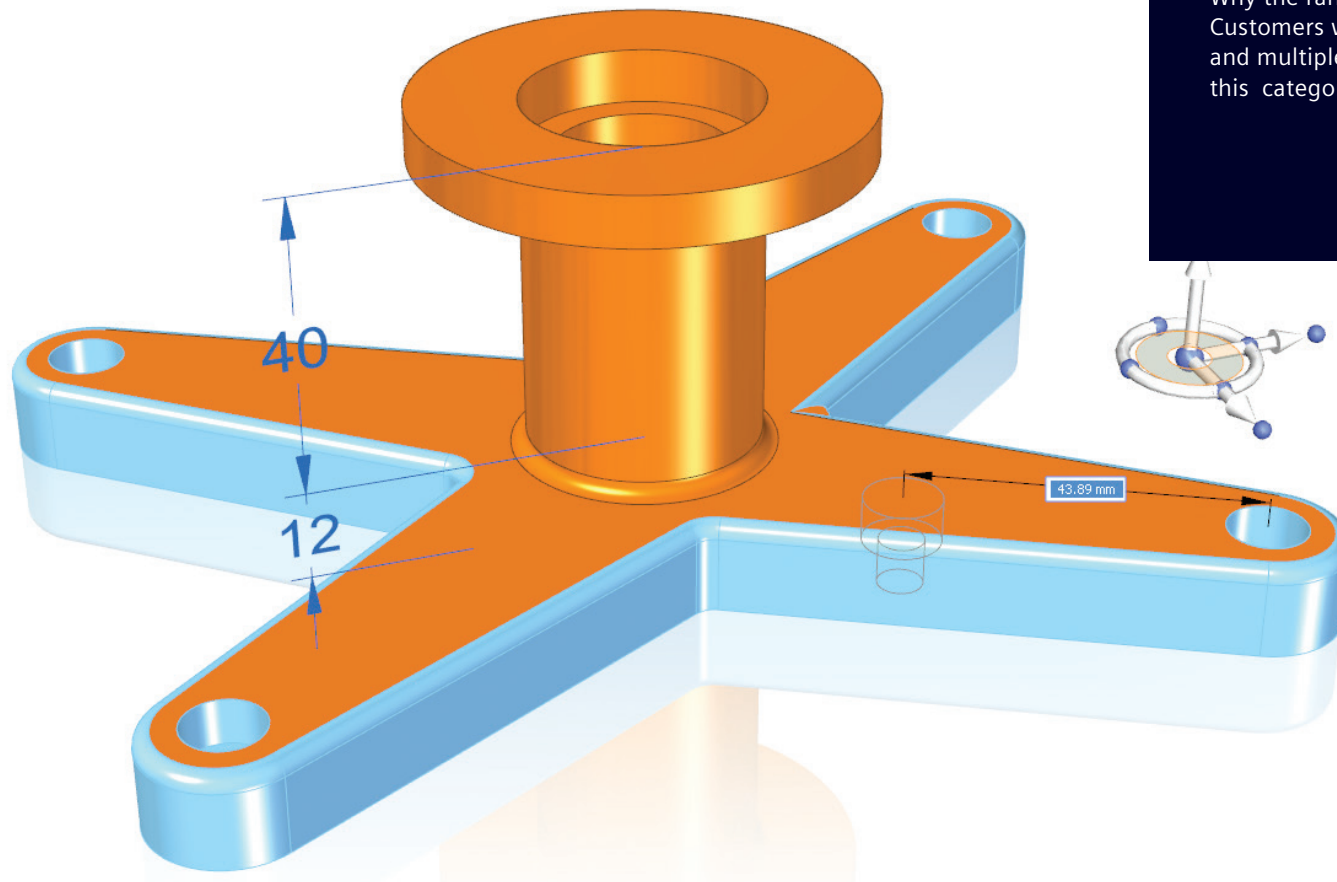
Bring your models to life with photorealistic rendering. Solid Edge offers built-in rendering with direct integration with Luxion’s KeyShot® technology, enabling you to create photorealistic images and animations from within the modeling environment.

What’s your ROI?

Solid Edge customers reported an average time savings of **two to three percent** when creating documentation.



Creating documentation



What's your ROI?

Solid Edge customers reported an average time savings of **30 to 90 percent** when editing imported or supplier models.

Why the range?

Customers who work with complex assemblies and multiple suppliers saw the largest gains in this category.

Summing it all up

Solid Edge with synchronous technology saves you time and money.

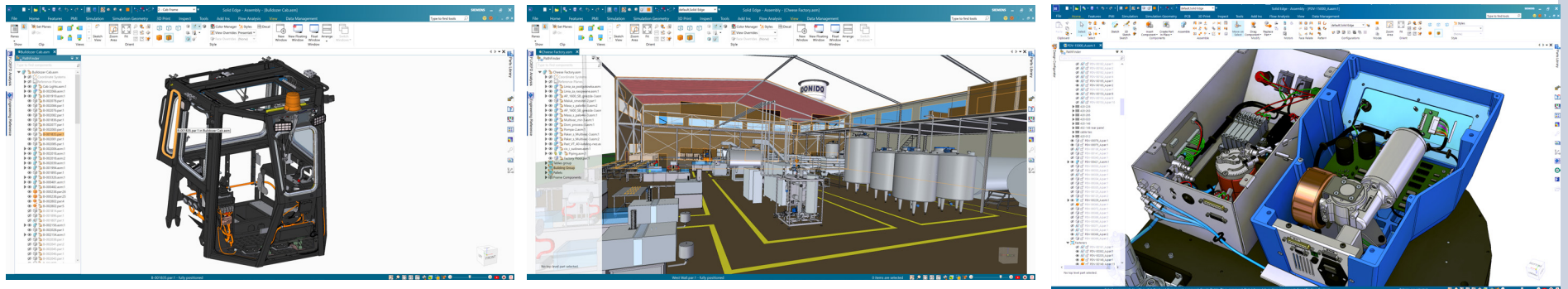
Solid Edge with synchronous technology helps you address common design challenges – from editing imported 3D data to responding to late-stage design changes. Addressing those challenges and improving your design processes can ultimately save time and money.

Want to see how much you could save?

Our interactive ROI calculator simulates the potential return on investment that you could realize by using Solid Edge with synchronous technology. Tell us about your team and what they do, and find out what Solid Edge could mean for you.

bit.ly/SolidEdgeROI

or try Solid Edge for yourself at
siemens.com/plm/try-solid-edge



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