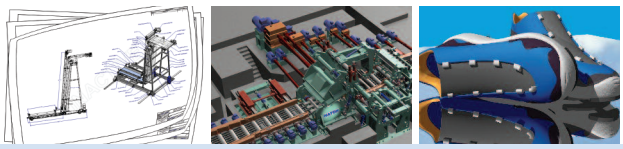
10 reasons to select UGS Solid Edge

white paper

www.solidedge.com

UGS PLM Software



UGS Solid Edge™ software delivers the best value and lowest total cost of ownership found in the mainstream CAD market today. This paper presents 10 reasons why selecting Solid Edge® is a wise business decision.

UGS SOLID EDGE SIEMENS

▶ 10 reasons to select UGS Solid Edge

Table of contents

10 reasons to select UGS Solid Edge

Introduction

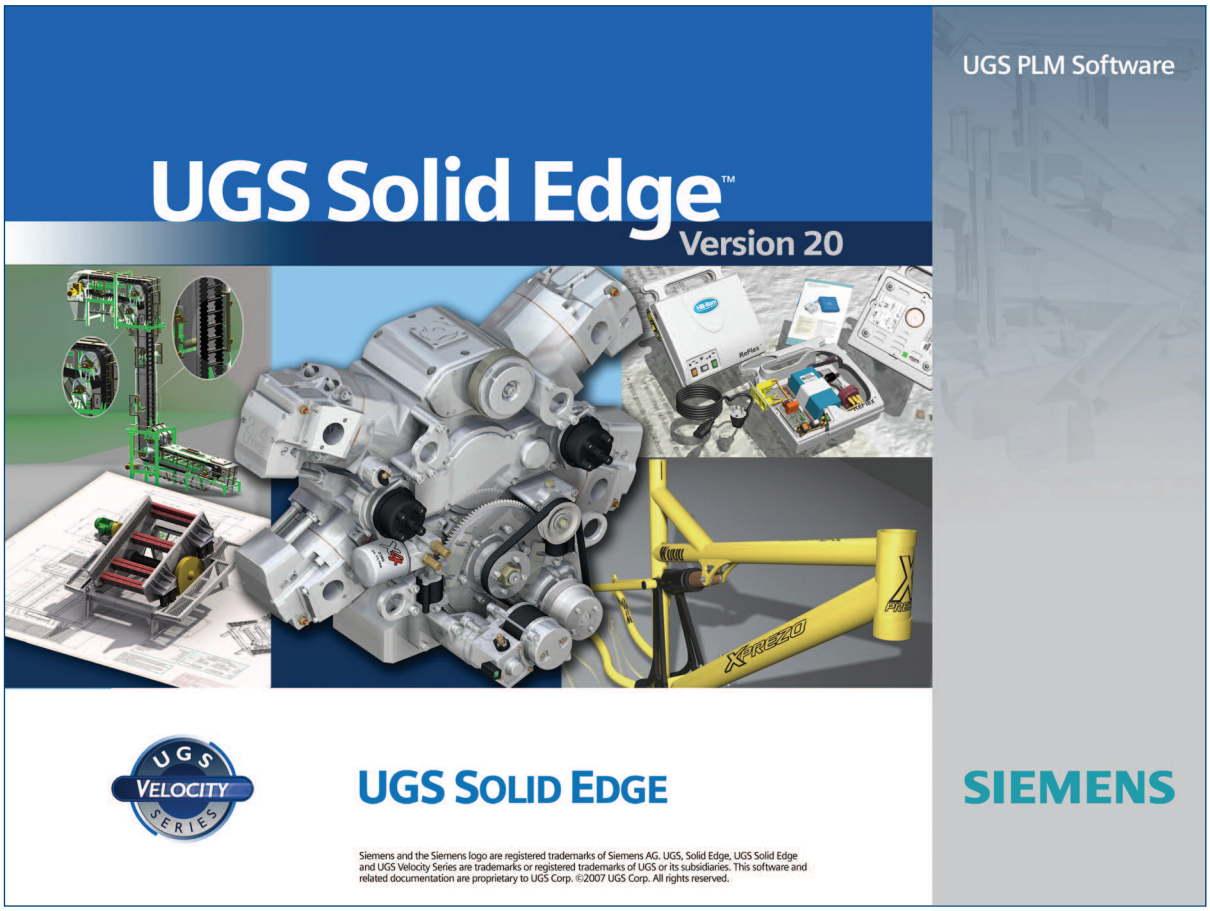
Most of us know the benefits of a 3D CAD strategy – reduced rework, shortened time-to-market, improved product features, and more. But smart companies succeed because they make smart decisions. They know not all CAD systems are created equal.

If you want your company to be a market leader, you need to innovate. Today's most forward-thinking companies are continuously improving their products and processes – and organizing their value chain so that innovation can flourish. UGS Solid Edge™ is the most cost effective, complete and open solution for 2D and 3D design and collaboration, helping you meet these key business requirements:

- Accelerate top-line growth
- Contain costs
- Reduce time-to-market
- Optimize resources
- Leverage globalization

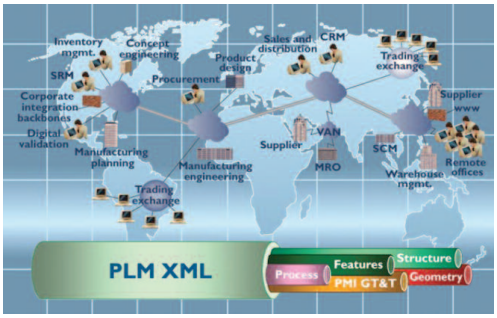
Solid Edge® is what it says – technologically superior 3D CAD, smart service and support that's always there, and a product architecture that's designed to take your design into the future.

This document explores 10 solid reasons why more and more smart companies are selecting Solid Edge to meet the 5 key business requirements listed above. Select Solid Edge – your best option for gaining a competitive edge in product design.

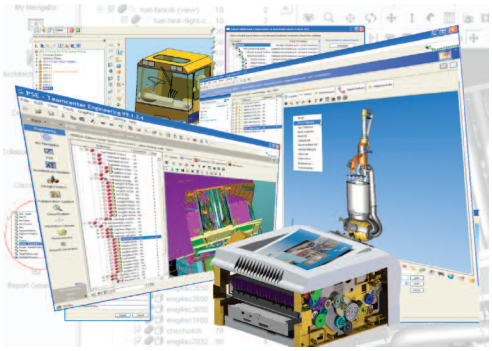


1. Scalable design and design management solutions

Unique in the PLM industry – scalability and interoperability with all products in our portfolio is a core vision of UGS PLM Software, a global division of the Siemens Automation and Drives (A&D). UGS PLM Software has a clear and consistent development strategy, allowing different products to co-exist, offering a safe, scalable approach for both design and data management. If you are already using products from our portfolio, UGS PLM Software is committed to providing functionality that allows Solid Edge to coexist within your organization. Solid Edge is completely scalable and extensible to both UGS NX™ software and the UGS Teamcenter™ software portfolios when your business requirements change. UGS PLM Software's associative embedding technology is already production proven with many customers using combinations of NX® and Solid Edge. Each product contains exclusive technology to allow part, assembly and attribute information to be passed between them. Solid Edge parts can be used in NX assemblies, with designers having the ability to update any of the parts from the assembly level in NX. Associative embedding ensures that updates to the original files will be recognized and acted upon in either system, keeping collaborative projects in sync at all times. With Solid Edge and NX, UGS PLM Software offers the industry's only full CAD spectrum, ensuring the success of your technology investment.



With its groundbreaking Insight technology, Solid Edge became the only mainstream mechanical system to merge design management capabilities with the CAD tools that designers use every day. Building on the success of Insight, UGS PLM Software now lets you choose from a range of easily scalable cPDM solutions, setting a new standard in CAD/PDM integration, Solid Edge. Solid Edge Insight continues to provide proven management capabilities for departmental teams. Solid Edge's integration with the powerful Teamcenter® platform provides seamless and transparent connectivity between the applications. All essential Solid Edge commands are encapsulated, making sophisticated data management functions easily available. Solid Edge-related data is easily captured for re-use in future projects without placing an additional burden on the designer, while full scalability means you can grow your cPDM solution to meet growing business demands without starting from scratch.



UGS Solid Edge business advantage #1

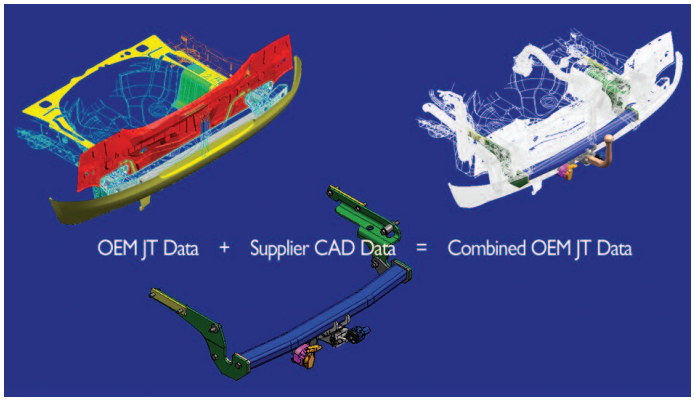
Solid Edge is the first CAD application to support Teamcenter Service Oriented Architecture (SOA) providing robustness, performance and support for the new Teamcenter architecture that allows access to a central database from remote sites via company wide area networks.

Scalable design and design management solutions:

- Choose the tools that are right for you today, with peace of mind that you can easily expand the scope of your software requirements to meet growing business demands
- Quickly repurpose data within a managed environment to leverage your assets
- Win more business and save costs by finding and reusing existing data and to provide faster more accurate bid requests
- Use intuitive collaboration tools for design reviews with internal teams, customers and suppliers. Make better decisions early in the development process, when costs are low
- Easily access up-to-date design data and related information, coordinating all business activities from design through marketing and sales
- Reduce training costs and get up to speed quickly through the use of built-in best practices and wizards that guide the user through everyday tasks and processes
- Lower your total cost of ownership through preconfigured out-of-the-box products that are easy to deploy with minimal or no dedicated IT support
- Hold shorter and more effective decisive design reviews with communication tools that help you make better and more informed decisions with your internal teams, customers and suppliers
- Take full advantage of existing resources by reusing common parts and processes already developed or deployed
- Share valuable design data internally and throughout the value chain by leverage the interoperability between Solid Edge and NX – reducing errors and removing duplication and waste
- SOA – Provides remote access in lieu of multi-site implementations for individuals at remote locations to access central projects

2. Collaboration throughout the supply chain

Global companies require efficient tools for exchanging design data, even when their partners are using disparate design tools. With over 4 million users worldwide, JT is proven technology and widely accepted as the standard for collaboration, allowing anyone in your supply chain to share intelligent 3D data regardless of the CAD system used to create the file. JT files contain all the important design data needed to collaborate in today's engineering world. Different combinations of geometry information, assembly structure and attributes allow OEMS and suppliers to share a level of "intelligence" with a level of security that is appropriate to each shared project.



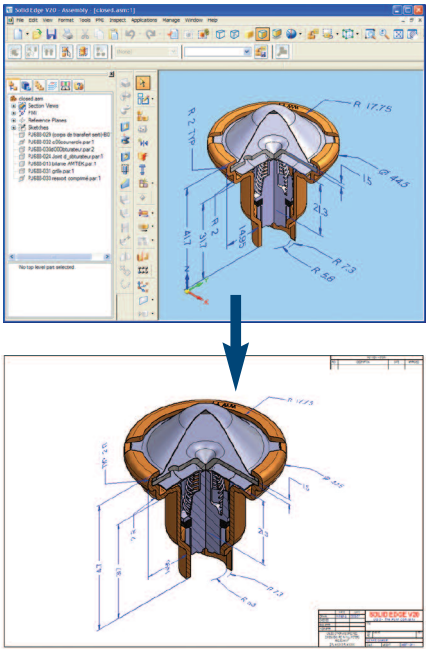
With enhanced 3D annotation tools in Solid Edge, product manufacturing information (PMI) is easily stored with 3D models and assemblies. These "smart" models reduce the need for drawings in design reviews and can be used for many downstream purposes, including manufacturing. The inclusion of 3D product definition in a single digital file improves productivity, ensures the 3D information is accurate and in sync and removes the need to keep multiple documents up to date.

Fully supporting both JT and PMI data, XpresReview is an electronic design review solution that allows you to easily share multiple documents in a collaborative environment. Used independently or in conjunction with Solid Edge or NX, XpresReview easily combines 3D models and other associated documents into a single package collaboration file (PCF), so participants in your review process have all the information they need to communicate effectively. Recipients of the package can use XpresReview to quickly and easily interrogate its contents – viewing, measuring, and marking up the data.

UGS Solid Edge business advantage #2

Collaboration throughout the supply chain:

- Communicating with customers and suppliers using easy-to-visualize, accurate and up-to-date information reduces misinterpretation as designs pass through supply chain
- Solid Edge's collaboration tools allow shortened and more decisive design reviews and help cross department and cross functional teams make faster decisions to meet shrinking delivery cycles and customer expectations
- Different combinations of geometry information, assembly structure and attributes allow OEMS and suppliers to share a level of "intelligence" with a level of security that is appropriate to their shared projects
- By quickly evaluating design options early in the design phase, changes can be incorporated or errors spotted while costs are low
- PMI data within 3D model delivers a digital representation of a product, so critical information is always accurate and up to date, reducing ECO's and costly rework
- Design teams and their activities are better coordinated reducing wasteful stages in the review process
- PMI rich "smart" models reduce the need for drawings in design reviews and can be used for many downstream purposes, supporting lean initiatives and manufacturing
- PMI information in Solid Edge is in compliance with world standards, supporting initiatives with global partners
- PMI can be viewed by shop floor assembly workers or maintenance engineers to reduce assembly time and serve as training aids, as well as delivering better maintenance and support documentation with products



- 3D Dimensions created in PMI views, can save time creating 2D drawings – they can be extracted as and when 2D drawings are required

3. Practical evolution from 2D

Many companies transitioning from Autocad and other 2D products find that learning and maintaining multiple design systems hinders their smooth transition to the productive world of 3D. The traditional answer from 3D vendors is to give up on your 2D data and jump head first into 3D. Solid Edge is the ***only*** practical design system allowing you to create from scratch 2D data, and edit or maintain your legacy 2D data from multiple systems while you move to 3D – at your own pace and using a single product. By following UGS PLM Software's proven 4-step "evolve to 3D" process, users upgrading from 2D AutoCAD to Solid Edge enjoy a smooth workflow and a consistent, familiar look and feel to their drawings – shortening the learning curve while ensuring consistency and data integrity.

Step 1 ➤ Continue today's 2D productivity while learning tomorrow's 3D design tools

Step 2 ➤ Turn 2D geometry into real 3D parts

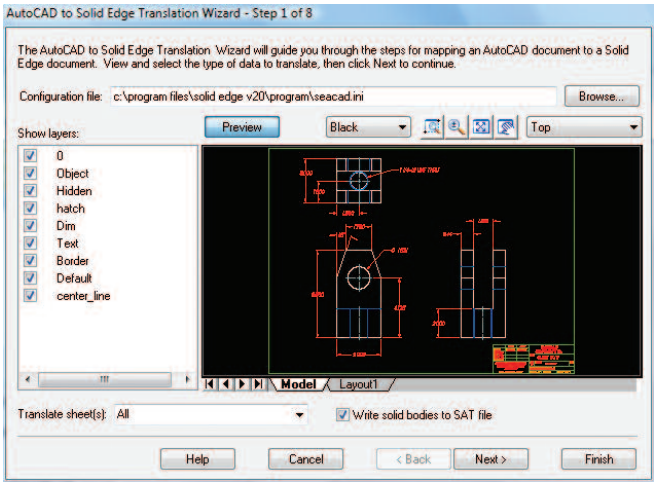
Step 3 ➤ Apply the power of a hybrid 2D/3D design workflow

Step 4 ➤ Realize the benefits of PLM with Solid Edge and the UGS Velocity Series™ software

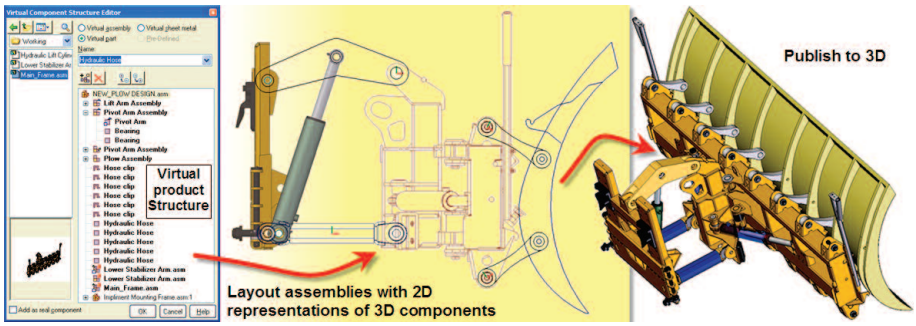
Free 2D

Solid Edge is the most Complete 2D and 3D design system in its class, however you are using 2D company-wide or for specific 2D design processes, you will benefit from Solid Edge 2D Drafting. Solid Edge 2D Drafting capitalizes on 10 years of production-proven capabilities developed for Solid Edge, and offers excellent drawing layout, diagramming, Goal Seeking, annotation and dimensioning controls that automatically comply with a wide range of drafting standards – including ISO, ANSI, BSI, DIN, JIS and UNI. And it is absolutely FREE to download and use.

True WYSIWYG (what you see is what you get) of imported AutoCAD DXF/DWG files, including matching color schemes, fonts, styles and backgrounds, means AutoCAD files look the same in Solid Edge as they did in AutoCAD. The AutoCAD Import wizard provides enhanced preview capabilities (pan, zoom, window area) to help users fine tune and predict translation results. Solid Edge 2D is so complete there is no reason for companies serious about transitioning to 3D to rely on Autodesk products. All 2D translation capabilities are available with full Solid Edge or Free 2D drafting.



Supporting this practical workflow, highly efficient hybrid 2D/3D design capabilities make Solid Edge unique it its ability to capitalize on a mix of existing and new data – in both 2D and 3D formats – to keep projects moving at a swift pace and allow key design decisions to be made earlier in the process. With Solid Edge, you choose the right tool for the right job at the right time, while continuing to keep all geometry in sync. A dd the unique capabilities of Zero D, with its ability to establish product structure before committing to any geometry, and Solid Edge leads the industry with a simple 4-step workflow from structure to 2D layout to 3D model.

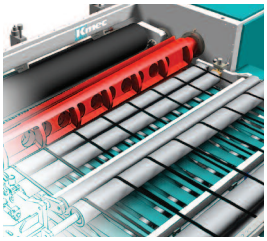


For more information, ask to see UGS PLM Software's white paper on Hybrid 2D/3D.

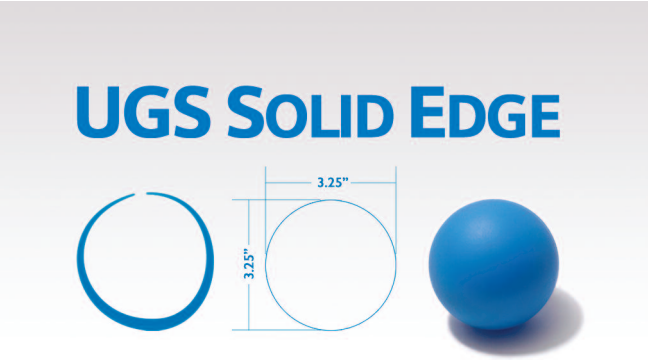
UGS Solid Edge business advantage #3

Practical evolution from 2D:

- Solid Edge's 4-step evolve to 3D process lets you move from 2D to 3D at a pace that makes sense for your business, without losing the investment you have made in 2D data
- By leveraging existing 2D data to create 3D components for new design projects, you continue to gain from your original investment while learning the same tools that will increase your 3D productivity
- Autocad import wizards enable 2D data to look the same in Solid Edge as it did in AutoCAD, so your users are instantly familiar with the drawings and don't need to go through a steep learning curve
- Easy access to DWG and other 2D files means you can work with clients using Autodesk products without having to maintain separate CAD systems
- Hybrid 2D/3D design capabilities let you use the right mix of 2D layout and 3D design tools, to keep projects moving and shorten design cycles
- Using Solid Edge to intelligently combine existing or new, 2D and 3D data, lets you create the right level of detail to generate accurate bids in less time
- Solid Edge Zero D introduces tangible productivity gains and cost savings through better coordination of design team activities. Project leaders can plan ahead of time, letting design engineers to focus on their area of specialization



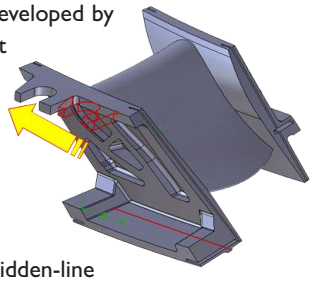
- Using Solid Edge as a single source for all your 2D and 3D design requirements reduces your IT costs and lowers your total cost of ownership for CAD technologies
- Control costs – Deploy Free Solid Edge 2D Drafting company-wide or compliment Solid Edge with 2D specific design processes.



4. Fast and flexible component modeling

UGS PLM Software owns and develops the best 3D modeling technologies in the world – a statement borne out by that fact that many of the world's leading CAD/CAM/CAE/PLM vendors have adopted the widely respected solutions from PLM Components for integration into their applications.

Solid Edge is built on the UGS Parasolid® software modeling kernel which, at more than a million licensed seats, is the clear standard for 3D mechanical CAD. Also owned and developed by UGS PLM Software, D-Cubed component software represents a family of geometric software components that enable key functionality in CAD, CAM, CAE, and PLM applications, including sketching, part and assembly modeling, parametric motion simulation, collision detection, clearance measurement and hidden-line visualization. Of course, these open tools only provide the foundation for any CAD product. Solid Edge's intimate knowledge and history with the technology allows the development of extremely intuitive design tools that have enormous power and flexibility, while remaining easy to implement and use.



For the ultimate experience in modeling flexibility, Solid Edge's Direct Editing capability is unique to mainstream modelers. Direct editing allows the editing of complex parametric models without reliance on the often very detailed history tree, thus simplifying the design process. Direct editing also allows the editing of imported 3D models from software such as Pro/Engineer, SolidWorks, Inventor or Mechanical Desktop, as well as IGES or STEP translations, without regard for where the data came from.

Solid Edge's revolutionary Rapid Blue technology overcomes the limitations of existing CAD systems and provides a new level of design control and flexibility for designers, engineers, and industrial designers. An industry first, Rapid Blue combines the flexibility of non-history based modelers that appeal to industrial designers with the engineering benefits of a history-based approach. BlueDots provide a flexible system in which the order curves are created places no restrictions on editing, yet provides all the benefits of properly updating related geometry when changes are made. Unique "shape-preserving" curves encapsulate in their behavior the ability to preserve their general shape characteristics such that your original design intent is built into each curve.

UGS Solid Edge business advantage #4

Fast and flexible component modeling:

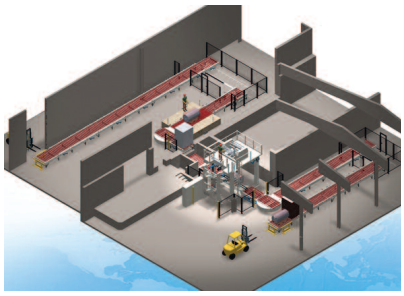
- UGS PLM Software's commitment to open software tools means you can focus on getting products to market without getting caught up in standardization and interoperability issues. UGS PLM Software's component software solutions enable us to rapidly deliver fast and flexible modeling capabilities for the benefit of our end-users
- Solid Edge drives innovation by combining proven techniques for industrial design and mechanical engineering. By rapidly creating and evaluating large numbers of alternatives and improving flexibility to optimize form, fit and function in real time, you ensure your products reach market shelves faster, achieve brand recognition and capture market share
- Direct editing allows you to make detailed and accurate geometry changes, regardless of which CAD system was used to create the original model, eliminating data translation problems and time waiting for changes – common sources of waste in the development process

5. Optimal performance and management of massive assemblies

Solid Edge customers are creating assemblies well in excess of 100,000 parts. Optimal performance is essential to be able to work interactively with assemblies of this magnitude. Solid Edge has a long tradition of leadership in this area with many unique capabilities to make it practical to work with large data sets. Other companies market the ability to open and display large assemblies, but that is a very small part of the designer's workflow. Of greater importance is the ability to navigate, manipulate and document assemblies efficiently and effectively.

Solid Edge was the first to introduce the concept of simplified assemblies. Storing and opening assemblies with any combination of 'simplified or 'detailed' parts ensures maximum performance, without limiting user interaction. Innovative selection and display options allow you to navigate the entire assembly tree structure without the overhead of the entire assembly, eliminating clutter and quickly isolating components necessary for each design task. And when drawings need to be generated, the combination of simplified assemblies and draft quality views ensure that you can quickly place detail views.

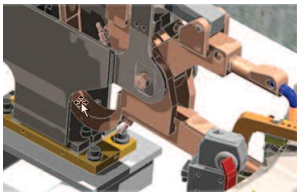
For some time now, advanced assembly design capabilities in Solid Edge have been used by many companies such as VAI, Anglo Platinum and Krones to lay out their factory floors and design equipment for their plants. Solid Edge, a leader in massive assembly design, now takes the next step to making it even easier to lay out and document factory floors. With new capabilities to open and work with actual machine geometry in the context of large assemblies and their associated drawings, Solid Edge further addresses the needs of industries like heavy industrial vehicles, large mechanical machinery, process plant equipment and power.



Solid Edge is the first mid-range modeler to take advantage of zones. Zones make working with massive assemblies even more manageable and boost performance, allowing designers to define a permanent range box to isolate areas of large designs they are responsible for at a subsystem level. Intelligent caching allows retrieval of only the parts in the zone, without having to open component files to determine if they lie in the zone or not. This creates a significant performance boost when switching zones or opening a massive assembly.

To help designers lay out factory floors and/or machine designs, manual component positioning capability allows existing subassemblies to be quickly copied, moved, rotated or arrayed within an assembly. To remove any restrictions, assembly relationships to existing components are ignored, while those integral to the subassembly remain intact. Subassemblies can be simply dragged to a new location or precisely moved using coordinates, vectors, or exiting components.

Systems Design is a unique Solid Edge approach to building intelligent assemblies. Where traditional assembly design focuses primarily on how parts fit together, Systems Design places additional emphasis on function, allowing you to create intelligent digital prototypes that emulate the real-world situations for which they are being designed. Motion simulation tools in Solid Edge let you create fast, accurate and realistic conceptual motion studies during the design phase, quickly and easily defining motion relationships and drivers, such as: gears, pulleys, hydraulic cylinders and motors.



If you regularly work with massive assemblies and/or their associated drawings, the 64-bit edition of Solid Edge gives you the extra horsepower you may need.

For more information, ask to see UGS PLM Software's white paper on Large Assembly Performance.

UGS Solid Edge business advantage #5

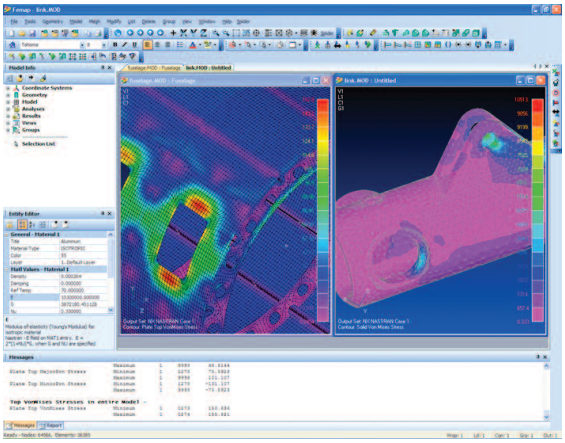
Optimal performance and management of massive assemblies:

- Solid Edge's capability to create a complete digital mock up of your designs means you find problems early in the cycle, helping you avoid ECOs and costly rework
- Focused tools for assembly manipulation and visualization let you focus on the design task at hand, rather than battling software performance
- Extend Solid Edge large assembly design capabilities into plant equipment design and layout on factory floors
- Systems Design capabilities allow part and assembly intelligence to be captured and stored as a single unit, saving time and money by optimizing and reusing parts, processes and materials
- Powerful production ready drawing tools mean you can rapidly create 2D drawings of even the largest assemblies in record time
- Sensors monitor critical design variables, keeping projects on time and on budget by checking for manufacturability, build errors, cost increases and more

- Dynamic "on-the-fly" creation and configuration of assembly families saves significant design time by quickly configuring new or custom design and product lines
- System libraries promote commonality and optimize resources by easily finding and reusing common components, sub-assemblies and mounting details

6. Scalable design and failure analysis

As development cycles shrink to meet market demands, it is becoming less feasible to build and test physical prototypes. Companies need proven simulation tools to help improve product performance and reliability, while reducing recalls that may result from limited product testing. The right simulation tools can save many thousands of dollars and help you get to market faster with a product that you know is a winner because of your ability to perform trade-off studies, evaluate different designs and optimize the design is such areas as reduced weight or stronger-but-cheaper materials.



UGS PLM Software owns and develops UGS Femap™ software – the world's leading advanced engineering analysis environment. Written by engineers for engineers, Femap® is widely used by the world's leading engineering organizations, with more than 20,000 direct customers, of all sizes, in all industries. Femap's powerful in-depth functionality solves challenging engineering problems quickly and easily.

Solid Edge is able to take advantage of UGS PLM Software's unique position with Femap to offer two complementary methods for design analysis and validation. Both solutions also utilize well-proven Nastran solver technology for accurate and repeatable results.

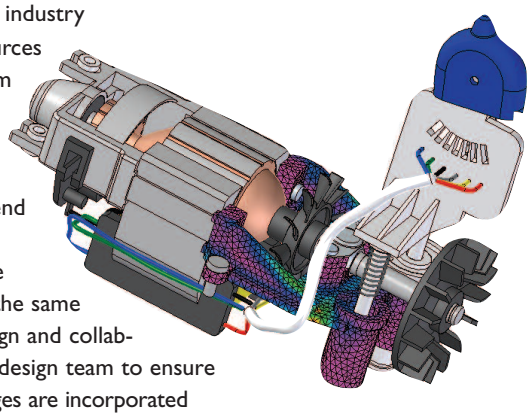
Created specifically for design engineers, Femap Express provides preconfigured, best practice, process guidance to the user for fast, accurate finite element analysis (FEA). Using the same process based approach found in other Solid Edge capabilities, finite element technology is presented to the user in an easy-to-follow workflow and detailed analysis tasks are undertaken within a single Solid Edge window.

For more detailed and advanced analysis, Solid Edge models can be associatively passed to Femap. Femap from UGS PLM Software is the world's leading window's-based engineering simulation tool for FEA. Engineers worldwide use Femap to model and simulate everything from simple solid components to entire spacecraft assemblies throughout a broad range of engineering disciplines. From simple linear static analysis right through to advanced solutions-based computational fluid dynamics, engineers and analysts use Femap to virtually simulate a complete range of product behavior before committing to expensive product development plans.

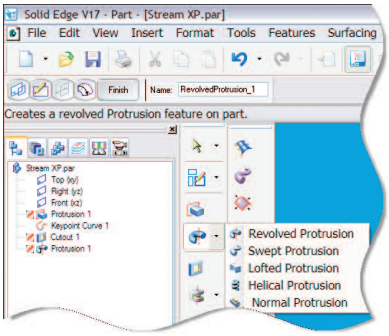
UGS Solid Edge business advantage #6

Scalable design and failure analysis:

- Femap and Femap Express perform fast accurate analysis, and validate that parts are 'fit for purpose' without building physical prototypes
- By moving analysis to an earlier stage in the design cycle, you ensure designs will function as intended and avoid ECO's, costly rework and recalls
- Avoid process duplication and waste by avoiding the need to build separate, meshed geometric models in order to run FEA analyses
- Lower development costs through the alignment of CAD design and FEA technology, working together within a common user interface so design engineers can quickly assess whether designs will meet specifications
- Enjoy peace of mind from the knowledge that you are using proven technologies that are scalable to meet your growing business requirements. Femap is widely recognized as the world's leading Windows-based engineering simulation tool for finite element analysis. The Nastran-based solver is well recognized and respected throughout the industry
- Optimize resources by working from the same data. When you need to run complex, high-end analyses, your analysts can use Femap to test the same up-to-date design and collaborate with the design team to ensure necessary changes are incorporated



7. Process-specific applications



Solid Edge boosts design productivity with specialized commands and environments to help you design much more quickly than with general-purpose CAD modeling tools. Fully tailored environments use standard terminologies and streamlined modeling commands to accelerate the design of plastic parts, frames, weldments, sheet metal, tubing, piping, and wiring, plus rendered images. Process-specific features provide step-by-step guided workflows for creating individual features that are common to specific industries.

A case in point is Solid Edge's exceptional sheet metal design capabilities. Process specific features and workflows provide users with a competitive advantage by significantly enhancing productivity from sheet metal component design through documentation and manufacture.

Solid Edge streamlines drawing creation with the industry's most productive drafting system. Formed and flattened components can be detailed and dimensioned and remain associative so they automatically update when you change your design. Innovative tools for shaded views, exploded assemblies, detail and section views, hole tables and coordinate dimensioning all ensure that you represent your parts in the best possible way for customers and manufacturing.

Model validation is another area where Solid Edge is unmatched. Solid Edge Sheet Metal ensures parts can be manufactured. Manufacturing support is an area where Solid Edge Sheet Metal excels. Its save flat as DXF and flat pattern generation commands allow the user to create a CAM-ready flat pattern DXF file directly from the sheet metal model without the need to create a drawing first.

For more information, ask to see UGS PLM Software's Sheet Metal white paper.

Other process-specific workflows are provided for:

- Frame design: For the development of rigid frame structures
- Weldments: For accelerating the design and documentation of weldments
- Piping and tubing: A comprehensive set of design tools help designers quickly route and model piping and tubing in Solid Edge assemblies
- Engineering Reference provides integrated, calculation-driven design tools that remove the guesswork from part design and eliminate the need for detailed analysis, providing a 'right the first time' design method
- Wire harness design: Providing integration between popular electrical wiring design packages and Solid Edge, as well as a full suite of tools for wire and harness creation
- Standard parts: A powerful parts management system that allows designers to define, store, select and position commonly used parts
- Fastener Systems groups relevant hardware such as nuts, bolts and washers with mechanical fasteners like bolts, screws, rivets etc. and creates correct clearance or threaded holes in adjacent components being fastened on placement
- Photorealistic and artistic rendering: A full range of rendering options for concept reviews right through to promotional materials

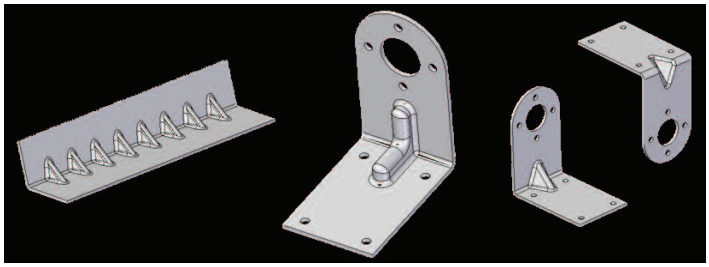
- Mold design: A powerful automated workflow that makes it fast and easy to design plastic injection molds

Common throughout each of these environments is the uniquely ergonomic Stream XP user interface, making Solid Edge easy to learn and use, and delivering a rapid return on your investment.

UGS Solid Edge business advantage #7

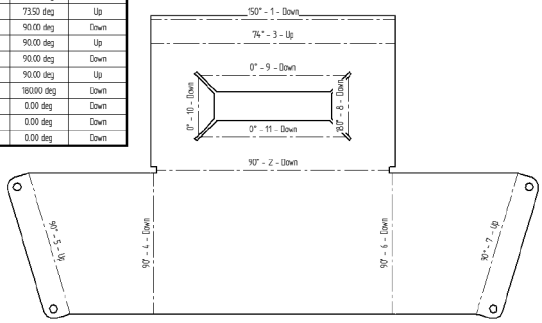
Process specific applications:

- Design better products by focusing on the engineering aspects of your projects while Solid Edge takes care of your process specific details such as wire properties or sheet metal bend radius



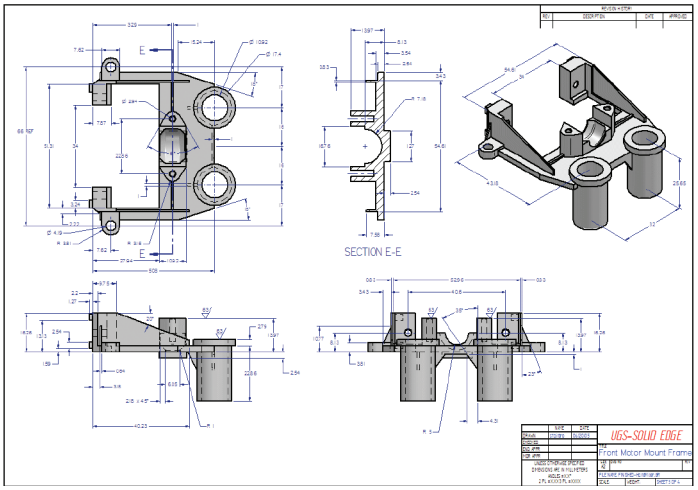
Bend information for sheetmetal part

Sequence	Feature	Radius	Angle	Direction
1	Hem 1	3.00 mm	150.00 deg	Down
2	Flange 1	3.00 mm	90.00 deg	Down
3	Flange 2	3.00 mm	73.50 deg	Up
4	Flange 3	3.00 mm	90.00 deg	Down
5	Flange 4	3.00 mm	90.00 deg	Up
6	Mirror 1	3.00 mm	90.00 deg	Down
7	Mirror 1	3.00 mm	90.00 deg	Up
8	Hem 3	0.00 mm	180.00 deg	Down
9	Hem 3	0.00 mm	0.00 deg	Down
10	Hem 3	0.00 mm	0.00 deg	Down
11	Hem 3	0.00 mm	0.00 deg	Down



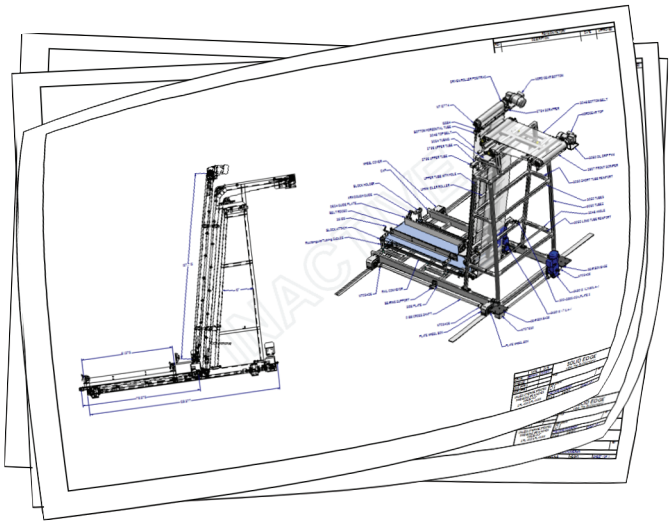
- Enjoy a faster return on your technology investment through Stream XP – a highly productive user interface that enables both casual and full-time users to achieve more in less time
- Reduce ECOs and costly rework by using process specific applications to manage critical design details for specific processes
- Reduce training costs through step-by-step instructions and wizards that guide you through streamlined design processes
- Build better products and reduce design time by capturing and monitoring key design parameters, such as maximum wire bundle size or manufacturability of sheet metal components
- Remove duplication waste and errors through automated manufacturing information, such as sheet metal flat patterns and reporting of tube or wire cut lengths
- Optimize resources by standardizing and reusing common components, such as fasteners and pipe fittings

8. Production proven 2D drafting

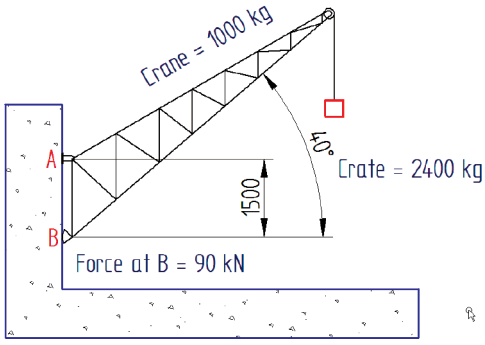


Solid Edge leads the market in drawing creation productivity with a focus on the four key components that affect the time required to progress from design to print, namely layout, performance, annotation and revision. With Solid Edge, you simply select the 3D model, and standard views are automatically created. Additional views such as sections or details are added with a simple click. Exploded views, balloons, parts lists, and BOMs are easily created and updated as changes are made to your 3D models. Quicksheet templates eliminate repetitive tasks by predefining a drawing template that automatically defines the layout for new drawings, including all standard sections and detail views, as well as parts lists and balloons. Innovative management tools make it practical to develop detail drawings from your largest assemblies, while practical and intelligent dimensioning and annotation tools means you can create fully dimensioned views in seconds.

As your designs evolve and change, so too must any associated documentation. Unique Solid Edge tools persistently monitor your 3D model and automatically highlight and tag views and dimensions that are no longer current relative to the model. By understanding why your drawings are out of date, and having Solid Edge tell you what needs to be done to update the drawing, you can make faster and more accurate revisions, without the need for detailed and lengthy manual checks.



Solid Edge's complete 2D drawing tools are augmented with a new 'drawing review mode' that allows rapid opening of a drawing for reviewing, adding dimensions, measuring or printing regardless of how big or detailed the drawing is. Unique architecture in Solid Edge Draft allows instant opening drawings of massive assemblies drastically decrease drawing access time from minutes to seconds. Inactive drawings as they are referred to allow you to add dimensions and annotations, and extract part numbers. Inactive Drawings are ideal for drawing reviews, quick print jobs for the shop floor, continued detailing by teams with or without 3D data being present.



Solid Edge Goal Seeking takes graphical engineering problem solving to a new level and avoids labor intensive iterative calculations by allowing design engineers to perform two-dimensional what-if engineering calculations, with a combination of 2D parametric geometry, mathematical formulas, variables and part properties. Knowing the target value of an engineering calculation, Goal Seeking allows users to set certain parameters, while the system varies other factors to achieve the desired result. Goal Seeking concepts, familiar to many, in Excel spreadsheets, have now been applied to engineering and design by allowing engineers to solve problems that are best expressed graphically. Results can be used to drive 3D geometry in a true hybrid 2D/3D design environment.

UGS Solid Edge business advantage #8

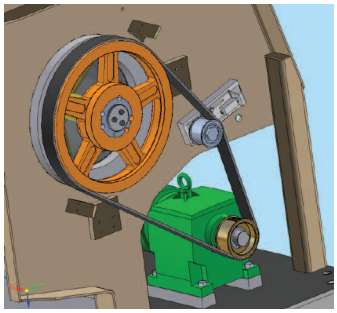
Production proven 2D drafting:

- Start in 2D or finish in 2D. Solid Edge's drafting environment enables you to be more agile, giving you flexibility to edit and maintain existing 2D drawings, create new 2D layouts, or develop drawings from 3D models
- Provide accurate manufacturing information using Solid Edge's full suite of dimensioning and annotation capabilities that adhere to international standards
- Deliver more accurate bids in less time through the ability to quickly create fully detailed drawings from multiple configurations of your products
- Take advantage of Solid Edge's free 2D/3D view and markup tools to open up design data to your extended organization. Collaborate with your customers and suppliers, and find errors early while costs are low
- Avoid costly rework through Solid Edge's ability to track and maintain associativity between the 3D model and its many different drawings. Drawing views give immediate feedback that designs have changed, while revision and version controls mean that data is always accurate and up-to-date
- Speed time-to-bid and time-to-market through automated bill of materials and parts lists that are accessible by purchasing and other departments
- Customize Solid Edge's standard drawing and quicksheet templates to meet your company or customer standards and ensure all documentation automatically adheres to design standards, processes, materials and templates

9. Animated and dynamic documentation

3D models are much more effective than 2D drawings for communicating design intent, and Solid Edge takes your designs to the next level – with motion simulation tools for evaluating prototypes, advanced capabilities for showing assembly and disassembly sequences, and an advanced rendering environment for creating realistic scenes that simulate the environment in which your products will be used.

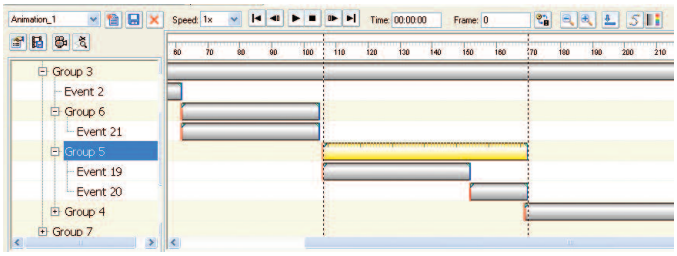
Explode and motion simulation capabilities in Solid Edge help teams communicate design ideas, represent large complex assemblies, create technical illustrations in maintenance and repair manuals while communicating clearer assembly manufacturing instructions and training videos more easily using dynamic 3D motion files.



A remarkably easy-to-use timeline automatically captures events when "exploding" assemblies. Existing motion generated by motors and gears, which provides precise control of products in motion, allows users to create exceptional animations and presentations. Additional camera and component paths create more realism and clarity, including true fly troughs. Styles, textures and fading can be set to emphasize or deemphasize items during animation.

For more information, ask to see UGS PLM Software's Motion Simulation, explode – render – animate white paper.

Solid Edge Virtual Studio+ (VS+) is an integrated advanced rendering



application that allows your Solid Edge designs to be transformed into photorealistic images. These images are ideal for use in sales and marketing collateral – allowing you and your customers to visualize a final product before manufacturing or fabrication occurs.

UGS Solid Edge business advantage #9

Animated and dynamic documentation:

- Reduce product costs and increase efficiency by reviewing design function and appearance before costly physical prototypes are built
- Use defined engineering data to visualize designs and fix errors early in the development process
- Remove duplication and waste by enabling design teams, customers and suppliers to collaborate using highly visual 3D animations
- Improve your chances for winning new business through the use of better product presentations, and the increased potential for creativity
- Reduce overall product costs with dynamic animated documentation to train shop floor, service and maintenance teams, create technical publications for service and repair manuals
- Reduce the risk of late surprises by defining and testing manufacturing sequences (assembly/disassembly) as part of the design process

10. The UGS Velocity Series

Solid Edge is the core design component of UGS Velocity Series – a comprehensive family of modular, yet integrated solutions addressing the product lifecycle management (PLM) needs of the mid-market. Consisting of a preconfigured family of digital product design, analysis, NC programming and data management software offerings, UGS Velocity Series leverages the industry's best practices to provide significant breakthroughs in ease-of-use and deployment. Mid-sized manufacturers can leverage the power of UGS Velocity Series to transform their process of innovation while maintaining a low total cost of ownership. All UGS Velocity Series products are completely scalable to the full range of UGS PLM Software's industry leading, enterprise-level PLM portfolio. Understanding that not all companies are the same, UGS Velocity Series can be purchased standalone or as an integrated suite allowing you – at any time – to scale to UGS PLM Software's full complement of PLM solutions. By either purchasing one or all of the components, the portfolio offers immediate flexibility with a predefined growth path to advanced capabilities, as your business and organizational needs grow. This cost-effective solution allows mid-size manufacturers an entry point into PLM with a low total cost of ownership and dramatic return on investment. All of these characteristics can only be found from the leader in PLM, UGS PLM Software.

- PLM for mid-sized manufacturers
- Modular, yet integrated solutions
- Preconfigured with industry best practices
- Easy to deploy and use

- Native Microsoft
- Low total cost of ownership
- Scalable to the full range of UGS PLM Software's PLM solutions
- Backed by UGS PLM Software, the leader in PLM
- Teamcenter Express provides collaboration across multiple departments and over multiple sites, support for multiple CAD systems and additional workflow capabilities to manage product release and ECOs
- Femap software, a pre and post processor finite element modeling application known for its tight integration with Nastran, the most extensive and reputable CAE solver in the industry
- NXCAM software extends design productivity and efficiency into manufacturing. NXCAM provides a dynamic link to product models for accurate and timely production tooling, molds, dies and work holding jigs and fixture

UGS Solid Edge business advantage #10

UGS Velocity Series:

- Enjoy peace of mind, knowing the UGS Velocity Series is from the PLM leader. UGS PLM Software has amassed years of experience of delivering and implementing process oriented solutions, capturing knowledge from a variety of world class manufacturers. UGS Velocity Series is developed with the needs of the mid-market in mind, addressing many specific problems faced by this market sector
- Take advantage integrated products, developed on a standard Microsoft platform, to deploy technologies that address your business needs without requiring significant IT investments or staffing
- Maximize the return on your investment through built-in best practices that allow fast deployment with a minimal IT infrastructure and minimal training requirements, deliver low total cost of ownership at a competitive initial purchase cost and reasonable maintenance
- Reduce design to manufacture lead times with an integrated suite of products for designing, testing, managing and manufacturing products in a broad range of industries
- Leverage valuable design data internally and throughout your value chain, communicating with customers and suppliers to get to market faster, with products your customers will buy
- Start wherever it makes sense for your business, and know that UGS PLM Software has a full range of scalable solutions that will grow with you and protect your investment

About UGS Solid Edge

Solid Edge from UGS PLM Software is powerful 3D CAD software that allows manufacturing companies to transform their process of innovation and achieve competitive advantage through cost reduction, while increasing top-line revenues. A fundamental component of the UGS Velocity Series portfolio, Solid Edge delivers an exceptional return on investment for a low total cost of ownership. Embedded and scalable design management capabilities complement Solid Edge's superior core modeling, design validation and process workflows to greatly ease the growing complexity of product design. The extensive Solid Edge user community is comprised of designers at thousands of companies worldwide, including Alcoa, NEC Engineering and Volvo. The Solid Edge Voyager Program includes 200 integrated engineering software applications and computer hardware solutions. For more information on Solid Edge products and services, visit **www.solidedge.com**.

About UGS PLM Software

UGS PLM Software, a division of Siemens Automation and Drives (A&D), is a leading global provider of product lifecycle management (PLM) software and services with 4.4 million licensed seats and 47,000 customers worldwide. Headquartered in Plano, Texas, UGS PLM Software's vision is to enable a world where organizations and their partners collaborate through global innovation networks to deliver world-class products and services while leveraging UGS PLM Software's open enterprise solutions, fulfilling the mission of enabling them to transform their process of innovation. For more information on UGS PLM Software products and services, visit **www.siemens.com/ugs**.

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