Velocity Series

Siemens PLM Software

www.siemens.com/velocity

Velocity Series™ software is a comprehensive family of modular, yet integrated solutions addressing the product lifecycle management (PLM) needs of the mid-market.

VELOCITY SERIES

SIEMENS

PLM for the mid-market

Product lifecycle management (PLM) for large enterprises realizes significant benefits, but what about PLM for mid-size manufacturers such as your company? The need to innovate, collaborate, reduce cycle times and manage complexity – needs that PLM addresses – are common to all manufacturing companies, large and small.

Do find yourself facing the following challenges?

- Global sourcing requiring you to compete with suppliers around the world
- Product innovation and customization that must address increasingly complex customer requirements
- Accurate timely quotation of all available business processes
- Program management that ensures quality delivery on a timely basis with repeatable, traceable processes
- Increasing product complexity demanding growth from a predominantly 2D to a 3D design process

For smaller companies, these challenges are often mission-critical, ultimately tied to your very survival. In order to innovate, the development of a rapidly deployable product lifecycle management strategy focused on speed-to-market is essential. PLM represents a transformational business strategy built on common access to a single repository of all knowledge, data and processes related to your products.

How can you transform your process of innovation such that these challenges become advantages and your PLM strategy mirrors the best practices from world class manufacturing processes? *The answer is Velocity Series.*

- *Visit Siemens PLM Software's website for more information on the Velocity Series and each of it's components. Our solutions help companies like yours understand how PLM can improve performance.*

  www.siemens.com/plm/smb

Velocity Series stands for a set of characteristics that mid-size manufacturers demand in order to survive in today's fast pace economy:

- 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 Siemens PLM Software solutions
- Backed by Siemens PLM Software, the leader in PLM

Velocity Series

Velocity Series is 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, 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 Velocity Series to transform their process of innovation while maintaining a low total cost of ownership. All Velocity Series products are completely scalable to the full range of Siemens PLM Software's industry leading, enterprise-level PLM portfolio.

Understanding that not all companies are the same, Velocity Series can be purchased standalone or as an integrated suite allowing you – at any time – to scale to Siemens' 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 – Siemens PLM Software.

The portfolio features:

- Teamcenter® Express software, an easy-to-use, preconfigured and easy-to-deploy collaborative product data management solution
- Solid Edge® with synchronous technology software combines the speed and flexibility of direct modeling with precise control of dimension-driven design to provide the fastest, most flexible design experience possible
- Femap® software is an advanced engineering analysis environment that is CAD neutral and known for its tight integration with Nastran, the most extensive and reputable CAE solver in the industry
- CAM Express software, a CAD neutral, numerical control (NC) programming application aimed at key machining requirements.

Teamcenter Express

Teamcenter Express is a complete, easy-to-use and easy-to-deploy collaborative product development management (cPDM) solution that delivers a preconfigured yet extensible environment designed to meet the PDM requirements of small- and mid-size manufacturing organizations. Teamcenter Express helps you transform your process of innovation by applying preconfigured best practices to everyday engineering tasks at a low total cost of ownership. An easy-to-learn and implement solution, Teamcenter Express gets you up and running fast to ensure a rapid return on investment.

Openness

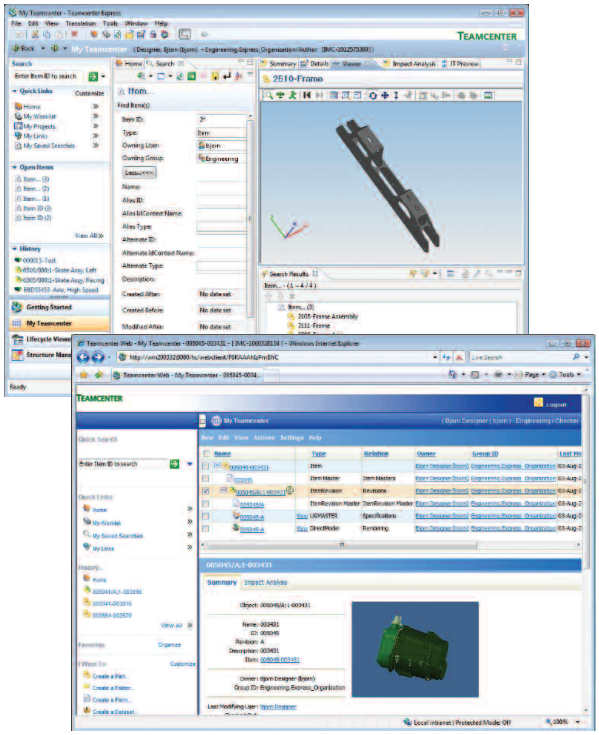
Open software tools are designed to promote industry standardization and interoperability within the product lifecycle management (PLM) market. Teamcenter Express provides industry standard electronic data exchange and visualization through support for the increasingly popular JT standard for 3D visualization. Teamcenter Express supports multiple CAD systems including NX™ software, Solid Edge, Catia V5, SolidWorks, AutoCAD, Inventor and Pro/E enabling organizations to implement a single platform using common processes and tools.

Companies using Teamcenter Express benefit from:

- Faster new product design and introduction with increased quality and reduced costs
- Increased design re-use
- A more successful move from 2D to 3D
- More efficient and consistent engineering processes
- Error reduction through effective collaboration with suppliers and customers and the elimination of mistake-prone manual handoffs with manufacturing

Teamcenter Express addresses the following key business challenges:

- Teamcenter Express manages the complete design process for engineering organizations currently experiencing a data explosion brought on by rapidly expanding product complexity
- Teamcenter Express eliminates the time consuming and expensive process of auditing and designing business processes by leveraging preconfigured, best practice processes based on Siemens' experience in implementing PDM
- Built on the powerful Teamcenter platform, Teamcenter Express allows mid-size manufacturing companies to collaborate more effectively both internally, and with suppliers and customers



Solid Edge

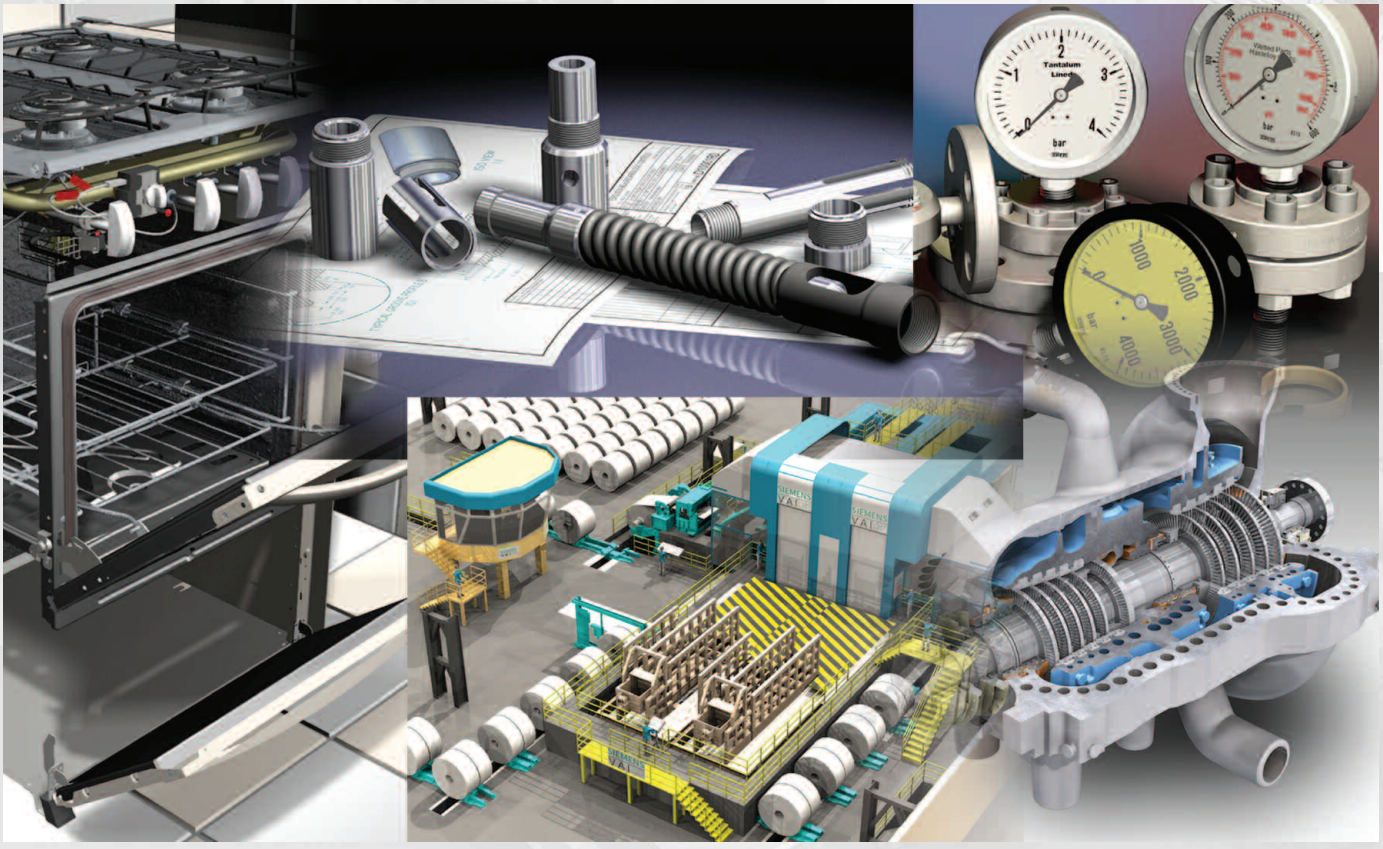
Solid Edge with synchronous technology 2 is the most complete feature-based 2D/3D CAD system available to the market today that combines the speed and flexibility of direct modeling with precise control of dimension-driven design to provide the fastest, most flexible design experience possible. Plus users benefit from superior part and assembly modeling, drafting, transparent data management and built-in finite element analysis.

Solid Edge modeling and assembly tools enable your engineering team to easily develop a full range of products, from single parts to complex assemblies topping 100,000 components. Tailored commands and structured workflows accelerate the design of common features.

Globalization and distributed partner networks are making product and process complexity a growing concern for manufacturing organizations. Thousands of companies around the world have come to rely on Solid Edge to battle increasing complexity head-on.

Companies using Solid Edge benefit from:

- A productive easy of use system that accelerates top-line revenue growth
- Advanced modeling and design tools reduce product development costs
- Powerful process specific applications increase product time-to-market
- Complete digital mock-up helps cut costs by reducing the need for physical prototypes



Synchronous Technology

This breakthrough combines the speed and flexibility of explicit modeling with the precise control of parameterized design. Models can be developed faster because designs no longer require preplanning. Changes are more flexible since users can apply 3D driving dimensions to completed models, and Live Rules maintains model integrity throughout design iterations. During any change, models are not regenerated so performance is nearly instant. The same edit tools can be used on imported data so changes to outsourced data can be made on the spot. Synchronous technology is present throughout Solid Edge, simplifying development of parts, sheet metal and assembly designs.

Concept

Many design processes follow a workflow of first establishing a basic product structure, utilizing new and existing 2D layouts to create a concept and moving to 3D only when appropriate. Solid Edge offers unique capabilities to encapsulate this valuable workflow. Solid Edge's "Zero D" approach lets you define the key elements of a product structure, organizing the major components and subsystems before any geometry is committed to paper. From these "virtual components," you can generate preliminary bill of materials (BOMs) and reports, such as cost estimations, without having to wait for the fully modeled 3D assembly. You can easily carry out the next logical step of assigning 2D layout geometry to the virtual components or positioning existing 3D components within the 2D layout. Once the conceptual structure is complete and is ready for more detailed design to begin, a single command populates the structure with real part and subassembly files and you can begin to work with the geometry to develop the detailed 3D mockup.

Styling

Solid Edge boosts design productivity for complex geometry with exclusive Rapid Blue technology. With Rapid Blue, you get the shape you want, not the one the CAD system wants to give you. Shape preserving curves retain your original shape even through complex edits. Blue Dot editing introduces an industry first by addressing order dependency and providing significantly more freedom and control for evaluating and manipulating shapes in real time. Complemented by a variety of process-oriented tools for shape design and dynamic editing, Rapid Blue shatters the barriers of traditional "history based" surface modeling. With significantly fewer steps to create and edit complex shapes, you can evaluate more alternatives in real time and get the design you want.

Design

Powerful modeling and assembly tools enable your engineering teams to easily develop a full range of products, from single parts to assemblies containing thousands of components. You ensure accurate fit of parts by designing, verifying and modifying them within the assembly model, so products come together right the first time, every time. Specialized environments embody engineering process knowledge in tailored commands and structured workflows. These process-specific applications take the complexity out of common design tasks, such as sheet metal design, tubing, piping, harness design and weldments, and help you develop complete digital prototypes much more quickly than general purpose CAD modeling tools.

Solid Edge Simulation

Solid Edge Simulation is an easy-to-use, built-in finite element analysis tool tailored towards design engineers to digitally validate designs within the Solid Edge environment. Based on proven Femap® finite element modeling technology, Solid Edge Simulation significantly reduces the need for physical prototypes, thereby reducing material and testing costs, while saving design time. For system-level simulations, Solid Edge parts and assemblies can be analyzed in Femap. This scalable strategy ensures higher product quality, lower development costs and reduced product development time.

Tooling

Solid Edge helps tooling/fixture engineers work more efficiently with advanced data exchange capabilities and unsurpassed interoperability for quickly modeling fixtures and jigs that are associative to the parts they are designed to hold. Tooling design teams can readily exchange design data with other systems using built-in conversion capabilities, while communication and collaboration tools speed design reviews and eliminate the wasted time and confusion that can creep into customer-driven projects. For mold tooling, an integrated add-on package to Solid Edge establishes a powerful step-by-step process workflow for the design of plastic injection molds. With accurate core and cavity creation, an extensive choice of industry-standard mold bases and automated generation of all required components, Solid Edge Mold Tooling offers dramatic time saving potential.

Machining

CAM Express provides an in-depth, highly flexible NC programming system that allows users to maximize the value of their investments in the latest most efficient and most capable machine tools. Available as a CAD-neutral CAM system, CAM Express also integrates effectively with Solid Edge. With a focus on being easy to deploy and to use, CAM Express combines leading CAM capabilities with a low cost of ownership.

Collaborative product data management

Our scalable PDM strategy offers complete collaborative design management for companies of any size. Solid Edge Insight leverages Microsoft SharePoint and is being used by thousands of companies worldwide as a productive yet low cost data management system. As your needs grow, Teamcenter Express offers more capabilities in managing data and engineering processes so you can deliver new and more innovative products, while minimizing your costs and improving the productivity of your organization.

CAM Express

In depth, proven NC programming from Siemens

Taking advantage of its acknowledged capability in CAM software, Siemens offers CAM Express to provide the advanced capability needed by NC programmers to fully utilize advanced, efficient machine tools, such as high-speed mills, multifunction mill-turns and 5-Axis machining centers.

CAM Express is an in-depth, highly flexible system that allows users to maximize the value of their investments in the latest, most efficient and most capable machine tools.

Modular industry focused packages

CAM Express is available in application focused packages to address:

- 2 1/2-Axis machining
- 3-Axis machining
- Mill-turn machining
- Advanced machining

CAD neutral

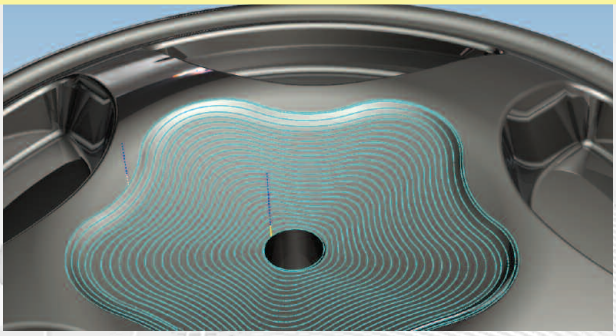
CAM Express is designed to be used independently of any specific CAD system. It has key industry translators for data import. Model edit functions include the synchronous modeling tools that have revolutionized the ability to make changes to any system's data. Even the advanced feature automation processes can recognize features in any system's data.

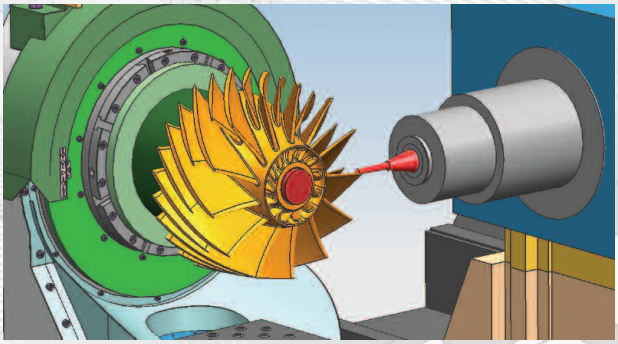
Integrated with Solid Edge and NX

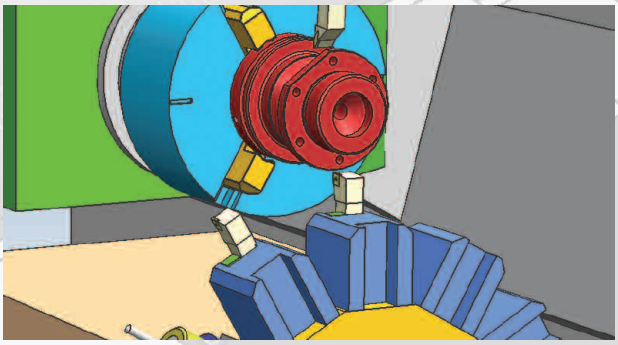
CAM Express is also available for integrated use with Siemens CAD applications (NX CAD or Solid Edge) based on the same packages outlined above.

Companies using CAM Express benefit from:

- Maximizing the value of advanced machine tools
- Enabling NC programs to be completed for complex, demanding parts
- In-depth, highly flexible software yet easy to deploy and to use
- The power of synchronous technology to make model edits in preparation for NC machining







PROVEN VALUE

"CAM Express is targeted to provide in depth capability for clearly defined key areas of machining, such as mold and die or mill-turn machining, in software that is easy to deploy and to use. Ready access to key elements such as a library of post-processors as well as pre-configured software with industry best practices will make it easier and faster for customers to become productive and to do so with lower costs."

Alan Christman
Chairman, CIMdata

Femap

Femap is real FEA made easy – a premier pre and post processor finite element modeling application with its roots in the analysis-intensive aerospace industry, implemented in an easy-to-use, native Windows environment for full-time experts and occasional users alike. Femap, when packaged with the industry's leading solver technology, NX Nastran, forms a broad and deep comprehensive pre/post/solver solution addressing the needs of many industries and solving the toughest problems in a straightforward manner.

Femap features:

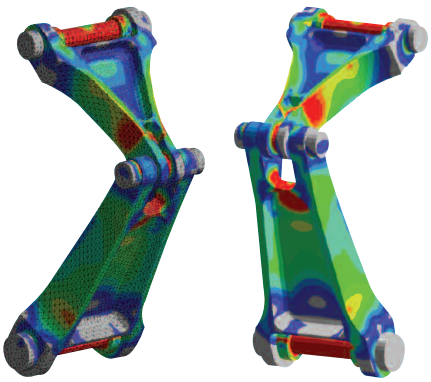
- Finite element modeling with a depth of capability to simulate real-world performance of complex engineering systems
- Unsurpassed Nastran integration exploiting the power of the world's leading solver technology
- Solver-neutral support allowing access to a variety of other solvers and advanced analysis solutions
- Powerful customization tools (Program Files,VB) for the automation of repetitive analysis tasks and integration with third-party Windows applications
- Ease of use ensures maximum productivity and minimizes training requirements, while maintaining the power of a full-feature simulation solution
- Scalability from Solid Edge Simulation delivered with Solid Edge to full Femap

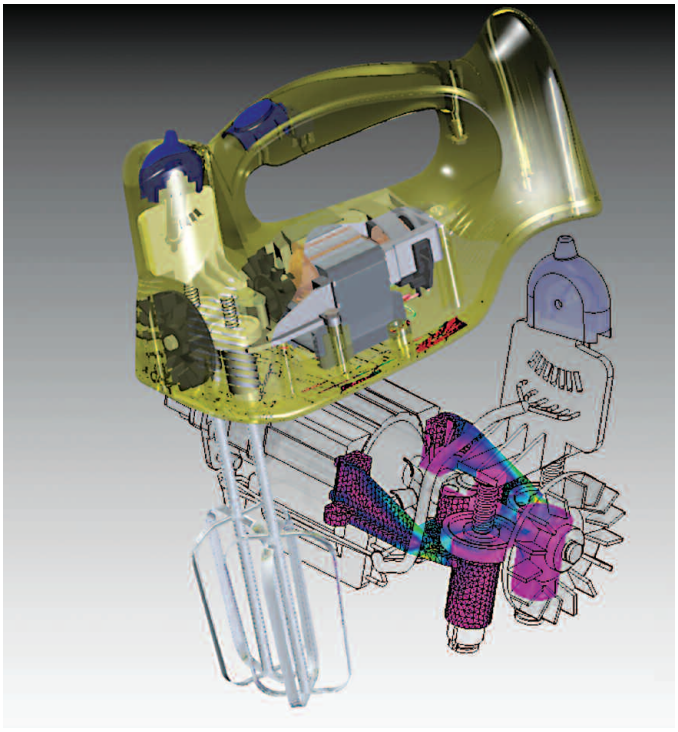
Femap is recognized as the world's leading CAD-independent, Windows-native pre and post processor for advanced engineering finite element analysis (FEA). It provides engineers and analysts with an FEA modeling solution to handle even the most complex tasks easily, accurately and affordably. Companies using Femap benefit from a powerful analysis system that allows simulation early in the design process though a high level of integration with CAD.

Femap delivers affordable, high-performance FEA modeling for the engineering desktop with Windows-native ease of use. Bringing analysis closer to the design process speeds time to market, reduces design errors and helps transform the process of innovation.

Companies using Femap benefit from:

- Facilitating *early* evaluation of designs and failure analysis
- Reducing the need for costly prototypes and physical testing
- Facilitating trade-off studies that optimize the design, reduce weight and utilize less expensive materials
- Faster time-to-market through bringing simulation closer to design





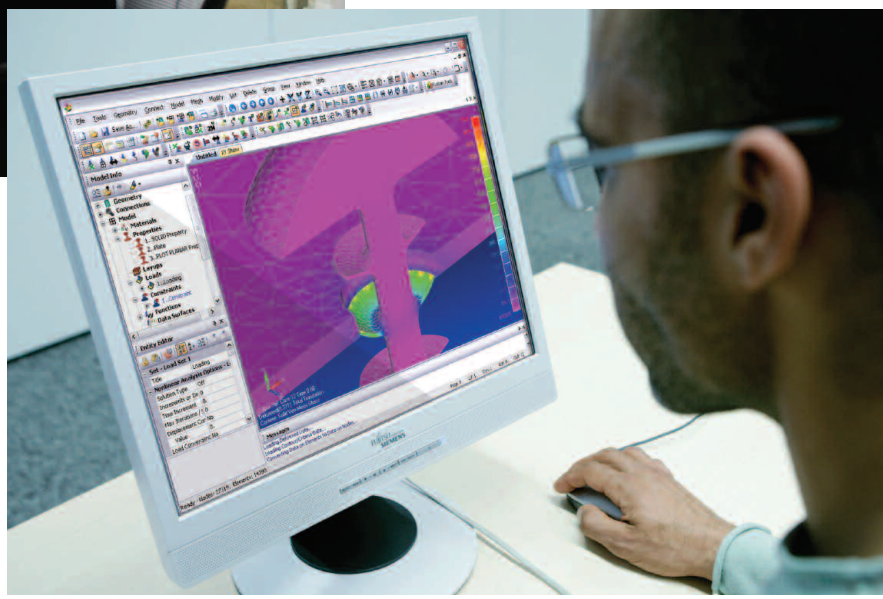
Benefits of Velocity Series

Smaller companies need not – in fact must not – be left behind in gaining the benefits of PLM. They can start with a PLM application that addresses their greatest area of pain and grow their capabilities incrementally as demand requires. And, by choosing PLM solutions that are open and scalable, they don't risk losing their investment to inflexible or proprietary technology or systems that limit their pool of potential customers or suppliers.

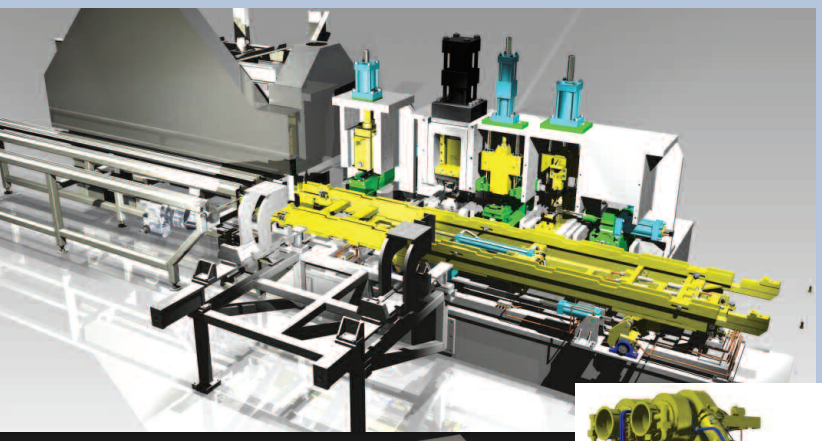
PLM is one of the few IT solutions that can actually assist in driving top-line revenue growth, while allowing companies of all sizes to innovate, collaborate, reduce cycle time and manage complexity. Now PLM solutions are available to address the challenges of all manufacturers – and that's good news for companies like yours that are thinking big!

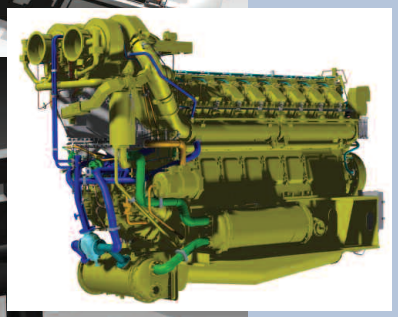
Velocity Series benefits mid-sized manufacturers by:

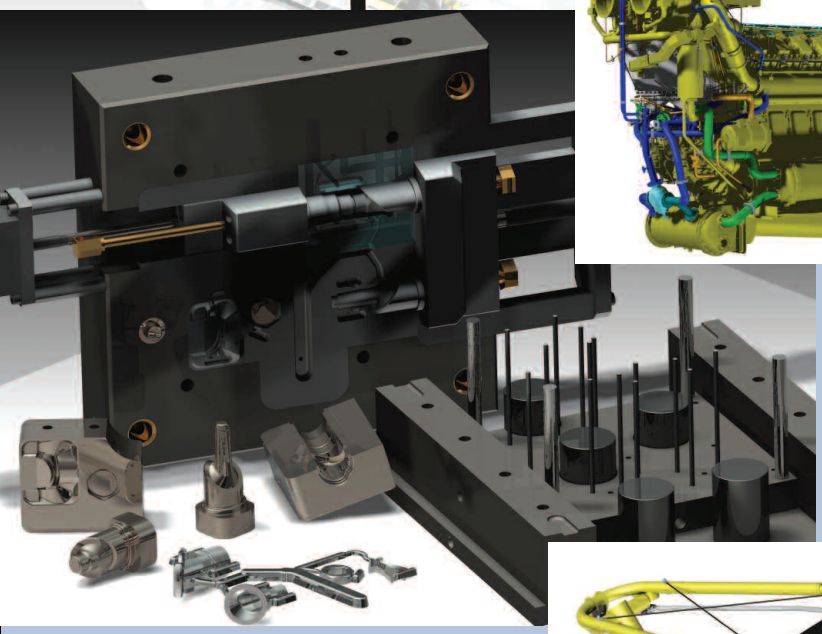
- Allowing companies to effectively compete with enterprise counterparts that command superior resources
- Speeding products to market by providing access to a complete range of robust PLM applications previously not available to mid-sized manufacturers
- Providing preconfigured "best practices" from the leader in CAD, CAM, CAE and cPDM to streamline implementation and maximize effectiveness
- Assisting customers who are trying to grow from 2D to 3D design process, but do not have sufficient resource, knowledge or experience to do so
- Delivering standard set of scalable, integrated applications from a common vendor streamlines support and ensures ongoing data integrity
- Enabling supply chain integration beyond tier I's, to include smaller suppliers, by standardizing OEM's supply chain processes to get suppliers up and running fast

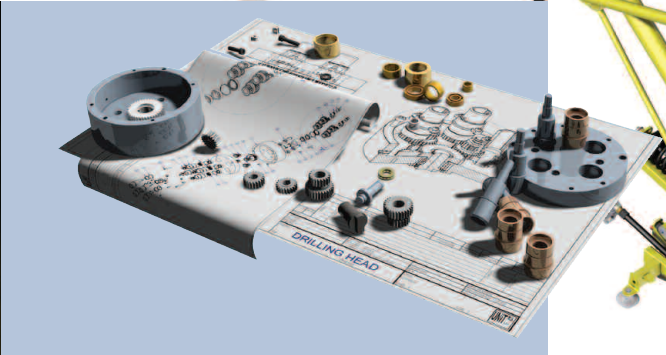


The Siemens PLM Software advantage









Velocity Series is part of the entire Siemens portfolio of solutions that empowers development teams at the world's best manufacturing companies. Value depends on the ability of solutions to scale, ensuring the right software is available to the right people who can leverage the work of the much wider development team, all while protecting the integrity of your data.

Throughout its product portfolio, Siemens leverages key attributes that help companies achieve business objectives of waste reduction, quality improvement, shorter cycle times and greater product innovation. These unique attributes directly support business process initiatives aimed at transforming product development.

With Velocity Series, Siemens offers a complete PLM solution set from a single source, for engineering organizations within mid-sized manufacturers to integrate CAD, CAM, CAE. Robust solutions with preconfigured world-class best practices provide a breakthrough in easy implementation, training and usability for full-time and occasional users alike, all at a reasonable cost. Velocity Series is completely interoperable with – and scalable to – the full Siemens solution portfolio, all while maintaining its openness to work with best-in-class third-party applications.

Velocity Series supports complete supply chain requirements from OEM through to multi-tier suppliers, all delivered and backed by Siemens PLM Software, the leader in PLM.

About Siemens PLM Software

Siemens PLM Software, a business unit of the Siemens Industry Automation Division, is a leading global provider of product lifecycle management (PLM) software and services with 6.7 million licensed seats and more than 63,000 customers worldwide. Headquartered in Plano, Texas, Siemens PLM Software works collaboratively with companies to deliver open solutions that help them turn more ideas into successful products. For more information on Siemens PLM Software products and services, visit *www.siemens.com/plm*.

Siemens PLM Software

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